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INTEGRATED CARE APPROACHES AND SKILLS MIX POLICIES IN EUROPE

By

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Stones in the road? I save every single one, and one day I'll build a castle.

Fernando Pessoa

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ABSTRACT

Background: Integration of health care services is emerging as a central challenge of health care delivery, particularly for patients with elderly and complex chronic conditions. In 2003, the World Health Organization (WHO) already began to identify it as one of the key pathways to improve primary care. In 2005, the European Commission declared integrated care as vital for the sustainability of social protection systems in Europe. Nowadays, it is recognized as a core component of health and social care reforms across European countries. Implementing integrated care requires coordination between settings, organizations, providers and professionals. In order to address the challenge of integration in such complex scenario, an effective workforce is required capable of working across interdependent settings. The World Health Report 2006 noted that governments should prepare their workforce and explore what tasks the different levels of health workers are trained to do and are capable of performing (skills mix). Comparatively to other European countries, Portugal is at an early stage in what integrated care is concerned facing a growing elderly population and the subsequent increase in the pressure on institutions and professionals to provide social and medical care in the most cost-effective way. In 2006 the Portuguese government created the Portuguese Network for Integrated Care Development (PNICD) to solve the existing long-term gap in social support and healthcare. On what concerns health workforce, the Portuguese government already recognized the importance of redefine careers keeping professional motivation and satisfaction.

Aim of the study: This study aims to contribute new evidence to the debate surrounding integrated care and skills mix policies in Europe. It also seeks to provide the first evidence that incorporates both the current dynamics of implementing integrated care in Portugal and the developments of international literature. The first ambition of our study is to contribute to the growing interest in integrated care and to the ongoing research in this area by identifying its different approaches and retrieve a number of experiences in some European countries. Our second goal of this research is to produce an update on the knowledge developed on skills mix to the international healthcare management community and to policy makers involved in reforming healthcare systems and organizations. To better inform Portuguese health policies makers in a third stage we explore the current dynamics of implementing integrated care in Portugal and contextualize them with the developments reported in the international literature.

Methodology: This is essentially an exploratory and descriptive study using qualitative methodology. In order to identify integrated care approaches in Europe, a systematic literature review was undertaken which resulted in a paper published in the Journal of Management and Marketing in Health care titled: *Approaches to developing integrated care in Europe: a systematic literature review*. This article was recommended and included into a list of references identified by The King's Fund Library. A second systematic literature review was undertaken which resulted in a paper published in the International Journal of Healthcare Management titled: *Skills mix in healthcare: An international update for the management debate*. Semi-structured interviews were performed on experts representing the regional coordination teams of the Portuguese Network for Integrated Care Development. In a last stage a questionnaire survey was developed based on the findings of both systematic literature reviews and semi-structured interviews.

Conclusions: Even though integrated care is a worldwide trend in health care reforms, there is no unique definition. Definitions can be grouped according to their sectorial focus: community-based care, combined health and social care, combined acute and primary care, the integration of providers, and in a more comprehensive approach the whole health system. Indeed, models that seek to apply the principles of integrated care have a similar background and are continually evolving and depend on the different initiatives taken at national level. . Despite the fact that we cannot argue that there is one single set typology of models for integrated care, it is possible to identify and categorize some of the basic approaches that have been taken in attempts to implement integrated care according to: changes in organizational structure, workforce reconfiguring, and changes in the financing system. The systematic literature review on skills mix showed that despite the widely acknowledged interest on skills mix initiatives there is a lack of evidence on skills mix implications, constraints, outcomes, and quality impact that would allow policy makers to take sustained and evidence-based decisions. Within the Portuguese health system, the integrated care approach is rather organizational and financial, whereas little attention is given to workforce integration. On what concerns workforce planning Portugal it is still in the stage of analyzing the acceptability of health workforce skills mix. In line with the international approaches, integration of health and social services and bridging primary and acute care are the main goals of the national government strategy. The findings from our interviews clarify

perceptions which show no discrepancy with the related literature but are rather scarce comparing to international experience. Informants hold a realistic but narrow view of integrated care related issues. They seem to be limited to the regional context, requiring a more comprehensive perspective. The questionnaire developed in this thesis is an instrument which, when applied, will allow policy makers to understand the basic set of concepts and managerial motivations behind national and regional integrated care programs. The instrument developed can foster evidence on the three essential components of integrated care policies: organizational, financial, and human resources development, and can give additional input on the context in which integrated care is being developed, the type of providers and organizations involved, barriers and constraints, and the workforce skills mix planning related strategies. The thesis was successful in recognizing differences between countries and interventions and the instrument developed will allow a better comprehension of the international options available and how to address the vital components of integrated care programs.

Keywords: integrated care, health workforce planning, skills mix, health policies, Europe.

RESUMO

Fundamentação: A integração de cuidados de saúde tem sido considerada um desafio central para os sistemas de saúde, especialmente no que diz respeito à prestação de cuidados aos mais idosos e aos doentes crónicos. Em 2003, a Organização Mundial de Saúde considerou os cuidados integrados como o caminho para a melhoria dos cuidados de saúde primários. Em 2005, a Comissão Europeia declarou-os como vitais para a sustentabilidade dos sistemas de proteção social, sendo actualmente considerados uma componente fundamental das reformas dos cuidados de saúde e sociais na Europa. A implementação de cuidados integrados exige um cenário complexo de coordenação entre níveis de serviços, organizações e prestadores, o que só é possível com recursos humanos adequados, capazes de desempenhar funções nos mais variados ambientes e sectores da saúde. O Relatório Mundial de Saúde em 2006 referia que os governos deveriam preparar e explorar o alargamento e/ou a redefinição das competências dos profissionais de saúde para satisfazer as necessidades dos serviços. Comparativamente a outros países Europeus, Portugal está numa fase inicial no que diz respeito aos cuidados integrados, enfrentando ainda uma população envelhecida e as consequentes pressões sobre as instituições e profissionais para prestarem cuidados sociais e de saúde de forma mais eficiente. Em 2006, o governo português criou a Rede Nacional de Cuidados Continuados Integrados na tentativa de ultrapassar a lacuna há muito existente entre o apoio social e os cuidados de saúde. No que diz respeito aos profissionais de saúde, o governo também já reconheceu a importância de redefinir as carreiras mantendo a motivação e satisfação profissionais.

Objectivo: Este estudo pretende contribuir com novas evidências para o debate sobre as políticas dos cuidados integrados e sobre a redefinição das competências dos profissionais de saúde na Europa. Ele contextualiza pela primeira vez as dinâmicas da implementação de cuidados integrados em Portugal com os desenvolvimentos expostos na literatura internacional. É nossa primeira ambição contribuir para o crescente interesse nas políticas e investigação de cuidados integrados identificando uma panóplia de abordagens e estratégias comuns aos países Europeus. O nosso segundo objetivo é contribuir com uma atualização do conhecimento sobre redefinição de competências, para a comunidade internacional de gestores e decisores envolvidos na reforma dos sistemas e organizações de saúde. Na expectativa de apoiar a tomada de decisão dos decisores políticos portugueses, numa terceira

fase exploramos as atuais dinâmicas de implementação dos cuidados integrados em Portugal que contextualizamos com a literatura internacional.

Metodologia: Este é um estudo essencialmente exploratório e descritivo que enfatiza o método qualitativo. Por forma a identificar as abordagens e estratégias de integração de cuidados na Europa foi efetuada uma revisão sistemática da literatura que resultou na publicação de um artigo no *Journal of Management and Marketing in Health Care*, intitulado: *Approaches to developing integrated care in Europe: a systematic literature review*. Este artigo foi identificado e recomendado pela lista de referências do King's Fund Library. Uma segunda revisão sistemática da literatura sobre redefinição de competências resultou igualmente na publicação de um artigo no *International Journal of Healthcare Management*, intitulado: *Skills mix in healthcare: An international update for the management debate*. Foram ainda efetuadas entrevistas semi-estruturadas a representantes das equipas de coordenação regional da Rede Nacional de Cuidados Continuados Integrados. Numa última fase desenvolvemos um questionário com base na informação obtida em ambas as revisões sistemáticas da literatura e nas entrevistas semi-estruturadas.

Conclusões: Apesar de a integração de cuidados ser já uma tendência mundial nas reformas dos sistemas de saúde não existe uma definição única para tal política. As várias definições podem ser agrupadas de acordo com o seu enfoque sectorial da seguinte forma: integração de cuidados comunitários; integração de cuidados de saúde e sociais; integração de cuidados hospitalares e cuidados de saúde primários; integração de prestadores; e num sentido mais lato, integração de todo o sistema de saúde. De fato, os modelos que promovem os princípios da integração de cuidados possuem um *background* semelhante e evoluem continuamente dependendo das iniciativas nos diferentes contextos nacionais. Apesar de também não haver uma tipologia definida de modelos de cuidados integrados é possível identificar e categorizar algumas das estratégias utilizadas na sua implementação: mudanças na estrutura organizacional; reestruturação dos recursos humanos em saúde; alterações no sistema de financiamento. A revisão sistemática da literatura sobre redefinição de competências mostrou que apesar do vasto e reconhecido interesse neste tipo de políticas, há ainda falhas na evidência científica que permitiria aos decisores políticos tomar decisões sustentadas, nomeadamente no que respeita às suas implicações, constrangimentos, benefícios e impacto na qualidade. Relativamente ao sistema de saúde português a integração de cuidados é sobretudo organizacional e financeira, enquanto que pouca atenção é dada ao planeamento de

recursos humanos. Relativamente a este último aspeto Portugal está ainda na fase de analisar a aceitabilidade das políticas de redefinição de competências. Em linha com as abordagens internacionais, a integração de cuidados de saúde e sociais e a integração de cuidados hospitalares e cuidados de saúde primários são os principais objetivos da estratégia governamental. Os resultados das entrevistas mostram não haver discrepância com a experiência internacional, mas os relatos são pouco abrangentes e limitados à contextualização regional da problemática. O questionário desenvolvido na tese é um instrumento que, quando aplicado, permitirá aos decisores políticos interpretar o conjunto de conceitos e motivações estratégicas por detrás dos programas nacionais e regionais dos cuidados integrados, evidenciando os seus três componentes fundamentais: desenvolvimento organizacional, financeiro e profissional. O questionário permitirá ainda obter informação adicional sobre o contexto de desenvolvimento dos cuidados integrados, o tipo de prestadores e organizações envolvidas, barreiras e constrangimentos à implementação, e as estratégias de redefinição de competências com ele relacionadas. De um modo geral, a tese reconhece diferenças entre países e intervenções e o instrumento desenvolvido permitirá uma melhor compreensão das opções disponíveis no contexto internacional e de como abordar as componentes vitais dos programas de cuidados integrados.

Palavras-Chave: cuidados integrados, planeamento recursos humanos em saúde, redefinição de competências, políticas de saúde, Europa.

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LIST OF ABBREVIATIONS

ECB- European Central Bank
ENHIS- European Environment and Health Information System
EQF- European Qualifications Framework
EU- European Union
EUROSTAT- European Statistical Office
HEN- Health Evidence Network
HOPE- European Hospital and Healthcare Federation
HRH- Human Resources for Health
IC- Integrated Care
ICNP- International Classification for Nursing Practice
IMF- International Monetary Fund
MeSH- Medical Subject Headings
NHS- National Health System
OECD- Organization for Economic Cooperation and Development
PNICD- Portuguese Network for Integrated Care Development
P1- Participant 1
P2- Participant 2
P3- Participant 3
P4- Participant 4
P5- Participant 5
UEHP- European Union of Private Hospitals
UK- United Kingdom
USA- United States of America
WB- World Bank
WHO- World Health Organization

CHAPTER 1

Introduction

1.1 Background

Since the rediscovery of public health in the 1990's, many European countries abandoned the traditional orientation towards a health system almost exclusively oriented to treat illness through high-tech hospital based services and rekindled the approach to some form of community-based health care system. Many countries have since taken measures to promote integration by developing comprehensive structures, closer collaboration between sectors, and coordination at all levels of care (WHO, 1981).

Hence it is widely recognized that the reorientation of health care services from hospital-based to community-based care requires the integration between social and health care institutions and organizations. These are among the most complex and interdependent institutions but they have remained separated for several reasons: different rules and jurisdictions, distinct budgets, different institutional and professional cultures and different approaches in the provision of care (Silber, 2003; Rogers & Veale, 2000; Mays, 2013).

Coordinating the delivery of ongoing health care services in a variety of health care and community settings has been termed as - continuity of patient care, which posits a goal that is based upon communication between health team members, the institutions, and the community (Lewis, 1987; Gulliford, Naithani, & Morgan, 2006).

All around Europe this concept is merging as Integrated Care, that is, the integration of activities between disciplines, professions, departments and organizations. It means addressing professional and organizational quality simultaneously through integrating professional and organizational best practice (Berg, Schellekens, & Bergen, 2005).

Over the past decade, integrated care has become an integral part of health policy reform across Europe. In 2003, the World Health Organization proposed that it was one of the key pathways to improve primary care (WHO, 2003). In 2005, the European Commission declared integrated care as vital for the sustainability of social protection systems in Europe. (OECD, 2005).

As organizations restructure the delivery of patient care, health systems around the world see it as an effort to provide more cost effective and efficient services to patients. The ongoing health sectors reforms, especially on what concerns health and social care integration has also originated a wide discussion about the appropriate, cost-effective mix of home health, community, and nursing home services for patients, especially the ones geared to deal with chronic conditions (Paulus, Raak, Merode, & Adang, 2000). Also driven by productivity improvements, cost containment, and personal shortages, the interest in workforce reengineering has been growing since the past few years.

The World Health Report 2006 noted that preparing the health workforce to work toward attainment of its health objectives represents one of the most important challenges and opportunities for health systems. The report also stated that governments should go beyond the traditional notion of skills mix and explore what tasks the different levels of health workers are trained to do and are capable of performing (WHO, 2006).

Comparatively to other European countries, Portugal is at an early stage in what integrated care is concerned facing a growing elderly population and the subsequent increase in the pressure on institutions and professionals to provide social and medical care in the most cost-effective way (Kubistchke, Stroetmann, & Stroetmann, 2002). Also the investigation and practice of integrated care that has been gaining breadth in other European countries is slowly getting to Portugal. Nevertheless, the health and social care sectors in Portugal have undergone some major reorganization efforts and the concept of integrated care has emerged as a response to these challenges (Barros, Machado, & Simões, 2011).

In 2006 the Portuguese government created the Portuguese Network for Integrated Care Development (PNICD) to solve the existing long-term gap in social support and healthcare. The network promotes new organizational approaches based on intersectoral partnerships and multidisciplinary practice to satisfy the needs of patients with varying degrees of dependency (RNCCI, 2010). Appendix A contains the decree-law that creates the PNICD.

Also in Portugal the integration of care requires major efforts concerning communication between parties and the building of a shared vision between experts, politicians and practitioners. These parties also need to recognize important interdependencies, learn how to work as a team, as well as mitigate some professional and institutional boundaries (Dias, 2002). The Portuguese government already recognized the importance of redefine careers keeping professional motivation and satisfaction, although resistance to this development is likely to occur and there haven't been many efforts to overcome it (Ministério da Saúde, 2004).

1.2 Aim of the study

This study aims to generate new evidence to the debate surrounding integrated care and skills mix policies in Portugal and in Europe. It also seeks to provide the first evidence that incorporates both the current dynamics of implementing integrated care in Portugal and the developments identified on international literature.

Despite the fact that integrated care has been under implementation in some European countries since the beginning of the millennium, it is a relatively new concept for others and the few studies published mostly concern its development at local level. Common approaches for integrated care policies remain unexplored. In today's dynamic European society, centered on close collaboration and strategy, exchange knowledge and information on health policies development is fundamental. The key ambition of our study was to contribute to the growing interest in integrated care and to the ongoing research in this area by identifying its different approaches and retrieve a number of experiences in some European countries,

Also as integrated care initiatives involve working at the interface of numerous organizations, settings and professionals, workforce structures that can respond to this complexity are being required. Managers' interest in identifying the most effective mix of staff to work across and within several and complex settings has resulted in an increasing research on the impact of the different approaches to staffing on patient and services outcomes. The second goal of this research is to produce an update on the knowledge developed on skills mix to the international

healthcare management community and to policy makers involved in reforming healthcare systems and organizations.

Integrated care is a complicated phenomenon surrounded by dynamics that continually increase its complexity, now aggravated in Portugal by the current economic context. It is therefore fundamental to understand how integrated care policies are struggling to engage the Portuguese health system. To better inform Portuguese health policy makers in a third stage we contextualize the current dynamics of implementing integrated care in Portugal and contextualize them with the developments reported in the international literature.

Besides exploring the issues concerning integrated care and skills mix policies, we also developed and discuss the value of an instrument (i.e.: a questionnaire) for diagnosis and analysis of national policies on integrated care. When combined with research findings the data gathered can inform important policy choices contributing to a wider discussion on the factors influencing health policies and integrated care.

1.3 Outline of the thesis

This thesis uses documentary evidence from international literature and empirical data collected through semi-structured interviews. The wealth of source materials examined and the methodological approach used for the purpose of this project are analysed in chapter 2. This chapter explores the sources and its applicability to the study. It also highlights some of the methodological elements involved in the project, including the framework design for data gathering, and the construction of a questionnaire of future utility. Chapter 3 has four sections individually dedicated to the results of each methodological approach. Section 3.1 and 3.2 examine in detail the literature on integrated care and skills mix, respectively. These sections focus on integrated care approaches within Europe, health workforce planning and skills mix strength of evidence. Section 3.3 examines the perceptions on the strategic approaches to implement integrated care in Portugal. Section 3.4 pushes this data further, and combines it to develop a survey tool to help health leaders planning national policies on integrated care and health workforce strategic planning. Chapter 4 draws together the data obtained providing a thorough discussion on the matters. It places information back into the context of the wider

health policies debate, and demonstrates the valuable new insights that this project has generated. The final chapter suggests ways in which this research can be continued, and makes some considerations and recommendations for policy makers to address the issues that may affect integrated care implementation in Portugal.

CHAPTER 2

Methodology

2.1 Research Objectives

A research objective does not exist in a vacuum. Our study questions came from previous research in the professional literature where we found unanswered and unexplored questions. Having in mind the theoretical context described in the previous section we guided this research by four general objectives.

Objective 1: Identify different approaches to integrated care and retrieve a number of experiences in some European countries.

Objective 2: Identify issues concerning the adoption of skills mix as a management tool in the international context of workforce strategic planning and produce an update on the knowledge already developed.

Objective 3: Describe the current dynamics of implementing integrated care in Portugal:

- Identify perceptions on the strategic approaches to implemented integrated care in Portugal: potential benefits of integrated care interventions; difficulties to implement integrated care; improvement strategies.
- Contextualize the perceptions identified in Portugal and the developments reported in the international literature.

Objective 4: Develop a survey tool to assess the development of integrated care and workforce strategic planning at the level of national health systems.

2.2 Methodological Design

Studies are usually classified according to the purpose of research questions (Sim & Wright, 2000). This is essentially an exploratory and descriptive study which deals with concepts and its related perceptions in the specific context of healthcare.

Exploratory questions are generally broad questions appropriate where the topic concerned has been only partially explored (Sim & Wright, 2000), as it's the case of integrated care European policies where there's a wide but unbundled literature. On what concerns skills mix related health workforce planning strategies there is not yet an established body of theory to explain it. Therefore we intend to produce an update on both issues, depict its concepts, and formulate a tool so European health leaders can better address them in the future.

Exploratory research often serves to prepare the ground for descriptive research and walks together with it. A descriptive research provides a descriptive account of the phenomenon within an established framework of knowledge (Sim & Wright, 2000). Based in the existing literature we will produce a fuller account on integrated care issues by describing them in greater detail and identify some relationships of potential interest.

Based on the nature of data to be collected studies are also categorized as being either quantitative or qualitative. Exploratory studies are more often answered by the collection of qualitative, rather than quantitative data. The nature of the concepts is more appropriately captured by data that seek to describe and categorize than by data that seek to quantify (Tashakkori & Creswell, 2007).

Whereas qualitative research refers to the meanings, concepts, definitions, characteristics and descriptions of things, quantitative research refers to counts and measures of things. Quantitative research generates reliable population based and generalizable data and is well suited to establishing cause-effect relationships (Padgett, 2004).

A qualitative methodology was used in this research because it was considered the most appropriate way of discovering or uncovering the perceptions of key-informants on the

strategic approaches to implement integrated care. It may provide insights into the contexts in which integrated care is occurring, as well as identify strategic aspects that should be better addressed in the future.

Also there has been a greater acceptance of the qualitative approach, even as a stand-alone method, in health care research. More studies concentrating on patients and professionals' own perceptions and views regarding their health and health care services have been published. Likewise, qualitative research is being used in health care to identify obstacles and barriers to change and the reasons why improvement does not occur (Meyer, 2000; Pope, & Baker, 2002).

Furthermore, qualitative analysis can precede quantitative research (Sim & Wright, 2000). Our qualitative research will provide the basis to build a questionnaire survey to assess the development of integrated care and workforce strategic planning at level of national health systems. We believe quantitative methodology will be further useful to convert the questionnaire survey into an index tool. Nevertheless, that goal is beyond this research context.

Having in mind the described methodologies and in order to achieve the previous objectives, three main research tools were used as following.

Objective 1: Identify different approaches to integrated care and retrieve a number of experiences in some European countries:

- A systematic literature review was undertaken which resulted in a paper published in the Journal of Management and Marketing in Health care untitled: *Approaches to developing integrated care in Europe: a systematic literature review*. (Appendix B) The article was also selected to the list of references held by The King's Fund Library.

Objective 2: Identify issues concerning the adoption of skills mix as a management tool in the international context of health workforce strategic planning and produce an update on the knowledge already developed:

- A systematic literature review was undertaken which resulted in a paper published in the International Journal of Healthcare Management untitled: *Skills mix in healthcare: An international update for the management debate*. (Appendix C)

Objective 3: Describe the current dynamics of implementing integrated care in Portugal:

- Semi-structured interviews were performed to five experts representing the regional coordination teams of the PNICD.

Objective 4: Develop a survey tool to assess the development of integrated care and workforce strategic planning at level of national health systems

- A questionnaire survey was developed based on the findings of both systematic literature reviews and semi-structured interviews.

In the next sections each tool will be described in detail.

2.3 Systematic literature review on integrated care

The aim of literature review is to summarize the available knowledge in a specific field in order to obtain more precise insight into subjects. It also reveals our knowledge gaps, and therefore often generates new research questions. Literature review is a comprehensive review in which an expert publishes his opinion about the state of affairs on the basis of the literature. In this type of review not always is clear where and how the information was selected, thus not using scientific methodology (de Vet, Verhagen, Logghe, & Ostelo, 2005; Khan et al, 2003; Khan, Kunz, Kleijnen, & Antes, 2003).

In order to improve the quality of our study results we performed a more complex review named systematic literature review. This term imposes rigor and quality to the research. It is used for literature studies in which the literature is systematically searched and assessed, allowing an evaluation of the methodological quality of the studies included in the review (de Vet, Verhagen, Logghe, & Ostelo, 2005).

Both systematic literature reviews (section 3.1 and 3.2) give a clear description of the method used to search the literature, which data have been extracted from the various articles, and how the subsequent conclusions have been reached.

The systematic literature review described in this section was undertaken in order to meet the research first objective: Identify different approaches to integrated care and retrieve a number of experiences in some European countries.

2.3.1 Research method

A systematic review of the Integrated Care literature was conducted in a 3 month period. The Pubmed, Embase and BioMed Central databases were searched for articles from 2002 through 2008. The following inclusion and exclusion criteria were established:

Articles should:

- a) Contain abstract
- b) Be published and available in the public domain
- c) Address an issue related to integrated or integrating care
- d) Discuss health policy-relevant results
- e) Address or make reference to innovation
- f) Describe patient flow and/or process design with the purpose of improving patient care in terms of integrated care process
- g) Contain a description of the intervention to developing integrated care
- h) Contain quantitative data about at least one dimension of patient care but including: time factors (length of stay, waiting time, access time) or capacity factors (resource utilization, planning issues) have a randomized or non-randomized control group design, a before – after design or an interrupted time series design changing the health structures at national levels
- i) Have been published after 1 January 2002

Exclusion criteria

- a) Articles analyzing care caring (i.e.: medical/nursing) procedures

- b) Studies undertaken in non European countries
- c) Studies undertaken in non-industrialized countries
- d) Projects with main purpose of financial improvement and/or changes that only concern administration
- e) Articles analyzing change in software and/or hardware and information technology
- f) Articles with description of methods, approaches, and theories without empirical data

Once the inclusion and exclusion criteria were determined a search was made for the relevant literature. We then searched the Medical Subject Headings (MeSH) database to find useful keywords (MeSH headings) and selected eight potentially relevant terms. Using these 8 headings, 20 recent titles and abstracts were retrieved for each heading (the publication dates ranged from March 2002 through January 2008) and evaluated for relevance. If none of the abstracts retrieved was useful, the MeSH heading was discarded. From the relevant abstracts, we derived free-text keywords (for example, intermediate care, community-based care) to increase the specificity of our search strategy.

Corresponding keywords for Embase (subject headings) were found using Scope Note. We entered all MeSH headings from our list and found the corresponding Embase subject heading(s). A cross-check was performed by entering the Embase Subject headings in PubMed Scope Note to find additional MeSH headings. In order to meet the inclusion criteria, we limited the search to European articles published after 2002. All articles indexed by at least one of the MeSH headings (PubMed) or subject headings (Embase) were combined with articles containing at least one of the free-text keywords in the title or abstract. For the BioMed Central, the list with all the available standard keywords (subjects) was scanned to find useful subjects. The search strategy was directed at finding articles with at least one health system integration-related subject combined with at least one health and social care subject. After performing our search using the selected keywords and MeSH headings, articles were then selected based on the title and abstract.

Two reviewers independently scanned titles and abstracts to select studies for consideration, and together decided whether or not to obtain the article's full text. Full publications of all selected abstracts were obtained (in electronic or printed form) to evaluate the full text. We

found 8 relevant MeSH headings in Embase and 12 relevant subject headings in PubMed. Eighteen free-text keywords were selected. Using a combination of at least one of these headings and at least one of the free-text keywords as well as the inclusion criteria (containing abstract and publication period), about 400 abstracts were found. In BioMed Central, about 30 health system integration-related subjects and 50 health and social care-related subjects were identified. Using our search strategy of combining at least one health system integration-related subject with at least one health and social care subject, we found about 100 articles that met our inclusion criteria (abstract and publication period).

All titles and abstracts were read by two reviewers, who selected 102 abstracts for further evaluation. Full-text articles could be obtained for 80 abstracts. The remaining abstracts were excluded. Of the articles, 77 were in English, 2 were in Spanish, and 1 was in Portuguese. All articles were evaluated by two reviewers, who selected 24 articles that met all the inclusion criteria.

2.3.2 Data collection and content analysis

A standard form was used for data extraction. This form contained the following variables (Appendix D):

- publication year;
- country or region;
- method;
- study setting (primary care, home care, social care, or a combination of these);
- study objective;
- key points (to summarize the article);
- challenges (for the health system);
- interventions (strategic approaches to implement integrated care);
- integrated care definition (as stated in the article, or when it was not explicitly mentioned, derived from the context)

The analysed articles describe integrated care in 16 European countries: United Kingdom (UK), Germany, Finland, Sweden, Austria, Spain, Netherlands, Ireland, Portugal, Denmark, France, Greece, Italy, Norway, Poland, and Switzerland. The studies' setting was primary care, social care, home care, or a combination of these.

In majority of the studies similar drivers to integrated care were identified: advances in health care, ageing population, multi-system nature of chronic diseases, hospital-based care system, insufficient provision of community care services, lack of cooperation among health and social care providers, fragmentation of the health and social care systems, and rural context. The articles also mentioned some integration strategies that were categorized according to: changes in organizational structure, workforce reconfiguring, and changes in the financing system.

Integrated care definitions were also derived from the articles, and from the verbatim text when possible. Definitions were grouped according to their sectorial focus: community-based care, combined health and social care, combined acute and primary care, the providers, and in a more comprehensive approach the whole health system.

As we mentioned before this systematic literature review resulted in a paper published in the Journal of Management and Marketing in Health care untitled: *Approaches to developing integrated care in Europe: a systematic literature review* (Appendix B). The article was also selected to the list of references held by The King's Fund Library.

2.4 Systematic literature review on skills mix

As in the previous section we will also give a description of the method used to search the literature, which data have been extracted, and how the subsequent conclusions were reached. The systematic literature review described in this section was undertaken in order to meet the research second objective: Identify issues concerning the adoption of skills mix as a management tool in the international context of health workforce strategic planning and produce an update on the knowledge already developed.

2.4.1 Research method

A systematic review on skill-mix literature was conducted in a 4-month period. The Pubmed, BioMed Central, and Medline databases were searched using skill mix, staff mix, changing staff mix, health workforce, and healthcare as key words, as well as the combination of those. Initially, a broad approach to searching was undertaken to ensure that any potentially relevant papers were not missed. The search included studies written in English and no limitations were placed to the date of publication. Where possible all search terms were explored and all subheadings were included. As our research scope was so vast we found about 200 references related to our subject. All references were reviewed by title and abstract to determine their potential relevance to the review. Letters, comments, and editorials were systematically excluded. Based on their strength of evidence only 100 studies were selected for further evaluation. Full-text articles could be obtained for 81 abstracts and the remaining were excluded. All articles were evaluated by two reviewers who selected 60 that met the inclusion criteria initially defined:

Articles should:

- (a) Contain abstract
- (b) Be published and available in the public domain
- (c) Address an issue related to skill mix in healthcare
- (d) Make reference to the search strategy
- (e) Discuss health policy-relevant results
- (f) Review research studies into skill mix (e.g. drivers, dimensions, constraints, patient and services outcomes, and quality impact)
- (g) Make reference to the strength of evidence of the analyzed studies

Exclusion criteria:

- a) Letters, comments, and editorials
- b) Projects with main purpose of financial improvement and/or changes that only concern administration
- c) Articles analyzing change in software and/or hardware and information technology
- d) Articles containing a description of the intervention to implement skills mix

Although, because our goal was to critical review skill-mix concept through the evidence of the studies on that issue and not analyze skill-mix interventions, we decided to exclude studies analyzing exclusively specific health professional groups' mix as well as studies testing skill mix exclusively in specific healthcare settings. Fourteen studies undertaken between 1998 and 2011 were selected for our discussion. Ten studies were systematic literature reviews on skill-mix outcomes, constraints, patients and workers satisfaction, and quality of care. The other four were descriptive studies on skill-mix drivers and dimensions that were included for their relevance to the discussion.

2.4.2 Data collection and content analysis

A standard form was also used for data extraction. This form contained the following variables:

- publication year;
- country or region;
- method;
- study objective
- key points (to summarize the article);
- drivers
- outcomes (expected outcomes from skills mix implementation)
- constraints
- skills mix dimensions/definition (as stated in the article, or when it was not explicitly mentioned, derived from the context)

Most studies highlighted skills mix as a policy solution for a range of health system related problems. Authors are unanimous when identifying the following driving forces for skills mix initiatives: respond to shortages of staff; cost containment; health workers distributional imbalances; improve quality of care and patient satisfaction; facilitate the interface between organizations, settings and workers.

Despite the driving reasons to skill mix implementation being similar there's no universal consensus about the nomenclature used to classify skill mix dimensions. We found no

evidence of a wider impact from skills mix on health systems nor on the variables that determine its success. Most studies did not explain why a particular approach to skill mix was chosen, nor gave enough information about the context in which decisions were made. There were few appropriate evaluations of outcomes, quality, and costs that enable for effective skills mix evaluation.

The presented facts provided this study background and will be further developed. Therefore, information contained in the next chapter resulted from data collected during the previous systematic literature reviews.

2.5 Semi-Structured Interviews

2.5.1 Research method

Qualitative research is multi-method involving an interpretive approach to the subject. It allows the use of a variety of empirical materials such interviews, case studies and direct observation to describe a phenomenon (Padgett, 2004). One of the most popular tools in qualitative research design is the interview, as it provides in-depth information from participants' experiences and viewpoints on a particular topic (Creswell, 2003).

There are various forms of interview design that can be developed to obtain thick, rich data using a qualitative approach: informal conversational interview; general interview guide approach, and open-ended interview. In an informal interview no predetermined questions are asked in order to remain as open and adaptable as possible to the interviewee's nature and priorities. A general interview intends to ensure that the same general areas of information are collected from each interviewee. This provides more focus than the conversational approach, but still allows a degree of freedom and adaptability in getting the information from the interviewee. In the standardized, open-ended interview the same open-ended questions are asked to all interviewees. Questions are identical to all respondents and worded so that answers are open-ended (Gall, Gall, & Borg, 1999).

Also depending on the flexibility of questions and the control of the interviewer, the interview can be, structured, semi-structured or unstructured. In the first case the interviewer has total control, dictating how the interview will progress, and what questions he wants answers for. Unstructured interviews are completely the opposite as the person who is being interviewed who can dictate the content and progress of the interview (Tashakkori & Creswell, 2007).

For the purpose of our study we conducted semi-structured interviews with open-ended questions as we needed to explore a range of views and concepts on the current dynamics of implementing integrated care in Portugal.

The strengths of the semi-structured interview as a data collection method are that it can uncover participants' perspectives, assist participants to describe complex interactions, and can help in gaining an understanding of the research problem without imposing pre-existing notions on the research setting (Fontana & Frey, 2005). Through semi-structured interviews individual respondents were allowed some freedom to talk about their perceptions on the subject.

The methodology described in this section was undertaken in order to meet the research third objective: describe the current dynamics of implementing integrated care in Portugal.

2.5.2 Pilot Tests

The interview guide was designed by two researchers to help focus on the issues to be covered. Questions were based on the issues previously identified in the systematic literature review, so we could later cross both collect data.

The data collection process commenced with three pilot studies which were conducted before the fieldwork began. The pilot tests were intended to assess the utility of using interview techniques in the study. The participants, experts in public health, were asked to provide feedback on an interview schedule and the guiding framework. They were asked to comment on any confusion and their overall impressions of the instrument, as well as to make general suggestions for improvement. The aim was to develop an interview guide that would address

key topics (previously identified in the systematic literature review) in a sequence that would make most sense to informants (Appendix E). After the pilot tests one question was modified and the interviews were scheduled.

2.5.3 Key-informants

The selection of key-informants in qualitative research is largely determined by the purpose of the study. Statistical representativeness is not considered as a prime requirement in qualitative research and is not normally sought. Furthermore, qualitative data collection is more time consuming and expensive, which makes the use of a probability sample impractical (Pope, Van Royen, & Baker, 2002).

Also in this study the dimension had no importance to the selection of key-informants. Otherwise, their profile was extremely relevant to the subject being studied, such as their competencies and expertise in the field. Therefore we undertook a homogeneous sampling, choosing a small homogenous group of five experts representing the five regional coordination team of the Portuguese Integrated Care Network: Norte, Centro, Lisboa e Vale do Tejo, Alentejo, and Algarve. The participants should integrate the following characteristics:

- Held at least 3 years of experience in the field
- Held a coordination position
- Be involved on the decision making process

Due to the limited size of the sample and the relevance of the positions held we could only describe the participants' general characteristics to prevent their future identification. Those are summarized in Table 1.

Table 1: General characteristics of the key-informants

Participant	Participant 1	Participant 2	Participant 3	Participant 4	Participant 5
Region	Norte	Centro	Lisboa e Vale do Tejo	Alentejo	Algarve
Age bracket	50-60	50-60	40-50	50-60	30-40
Time held in the position	Since 2008	Since 2006	Since 2007	Since 2007	Since 2006
Position held	Team Coordinator	Team Coordinator	Team Coordinator	Team Coordinator	Team Coordinator

2.5.4 The interviews process

As the interview script was a guide, it follows that the sequence of questions was not the same for all the participants. Questions depended on the process of the interview and the response of each participant. In addition the interview guides were not followed strictly as participants raised issues that needed to be followed. Nevertheless, all the questions defined were posed to the interviewees. Holloway & Wheeler (2010) stated that the guide can be revised after several interviews because of ideas that arise. However, they also state that researchers need some control over the interview so that the purpose of research is not lost (Holloway & Wheeler, 2010). This was particularly important in this research as concepts had to be shared with participants to guarantee coherent interpretations.

The interviews were carried out between September 2011 and January 2012. They were audio recorded so we can transcribe and also listen to them again during data analysis. We also kept a reflexive diary taking notes on observations and impressions about each interview.

Participants in the study were assured that they would not be identified in any way in any report or publication emanating from the study. They were also informed that the study was being undertaken for fulfillment of a PhD study and that information may be used for conferences and publication of articles in journals (Appendix F). Interviews were previously allowed by the PNICD national coordinator.

2.5.5 Content Analysis

The interviews were first transcribed and then translated from Portuguese to English. The researcher was both the interviewer and the translator. Nevertheless, translation was verified by a second researcher.

The process of data analysis was manual. Webb (1999) suggests that manual analysis is preferable as it facilitates the process of learning. The author argues that manual analysis adds an intimacy with the data which give a close feeling and familiarity with what participants have said. In addition lack of experience in handling qualitative analysis software dictated that the use of an approach that focused on gaining experience with the analytic approach rather than the technology was wise (Webb, 1999).

In this study, the data were analyzed and a conceptual framework was developed using an inductive method similar to that used in traditional grounded theory (Table 2). The basic idea of the grounded theory approach is to read (and re-read) a textual database and identify label variables (categories, concepts) and their interrelationships. Even though grounded theory offers a set of coding procedures to help provide some standardization to the analytical process, no formula exists to the transformation of data into findings (Patton, 2002). According to Charmaz (2000) “grounded theory” offers a set of flexible strategies, not rigid prescriptions.

Because this research was designed around priori issues/themes (e.g. integrated care benefits, barriers, improvement strategies...) the thematic framework was guided by those. “Grounded theory” was useful in identifying patterns and similarities among responses so we can group them into domains or sub-themes (e.g.: referral process, communication, human resources, financing...). It can be said that a two-level analysis was performed followed by a more specific level. This is a common approach in most of health care qualitative studies as these are general and inductive, but does not strictly comply with the very systematic inductive approach of grounded theory (Al-Busaidi, 2008).

Using a “summative content analysis”, rather than analyzing the data as a whole, the text was approached in relation to a particular content previously identify in the literature. The analysis of the patterns leads us to an interpretation of the contextual meaning of our subject (Shannon & Hsied, 2005). We look at relationships among the ways themes co-occur within participants, or look for patterns in the types of concerns raised, and gather insights which may contribute most effectively to the research focus. These themes were then sorted and grouped under main themes and sub-themes (Table 2, and Table 3).

Table 2: Conceptual framework: example of main theme and sub-theme formation

Themes for integrated care programs focus	Health and social care network to support dependent patients
	Intermediate care to bridge acute and primary care
	Providing continuous care within distinct specialized units
Themes and Subthemes for difficulties in implementing programs	Communication <ul style="list-style-type: none"> • Lack of communication between community and acute care • Language is not standardized (lack of understanding) • Information technology systems incompatibility
	Human Resources <ul style="list-style-type: none"> • Lack of knowledge on integrate care models • Coordination teams unclear roles and duties • Contract arrangements (most in part-time) • Staff shortages • Ineffective use of staff skills • Opposition to change
	Structural Conditions <ul style="list-style-type: none"> • Inadequate infrastructures • Intermediate care units overload • Lack of in-patient beds per unit

Once themes were identified, we ordered the data so that similar statements were grouped together (Table 3).

Table 3: Examples of themes and sub-themes related statements. Difficulties in integrated care implementation: communication

Communication Sub-Theme	<ul style="list-style-type: none"> • Lack of communication between community and acute care • Language is not standardized lack of understanding • Information technology systems incompatibility
Statements	
<p>P1: Communication between hospital and community teams is complicated. Sometimes information about patients is not transmitted between units and professionals'. There's information lacking. P2: There's a gap in continuity of care as information is missing. P2: (...) one of the biggest challenges is the communication between providers, staff and patients. Some professionals don't use the same terminology and patients don't understand some medical terms. P5: There is not a common tool on what concerns information technology. It happens very often we couldn't retrieve data from an application as it is not compatible with the software.</p>	

2.6 Questionnaire survey development

Health data are essential for monitoring the situation and trends in health, and can help in evaluating the impact of health policies and programs. Nevertheless, health data need to be assessed, synthesized and combined with research findings to generate evidence to inform policy choices.

For that purpose WHO/Europe's databases already enable comparative analyses of the health situation and trends in the European Region, surveillance of disease and monitoring of trends in policy areas, including key determinants of health (such as alcohol, tobacco and nutrition). The Health Evidence Network (HEN) for example is a service for public health and health care decision-makers in the Region.¹ There is also The European Environment and Health Information System (ENHIS) which provides comparable data and information on priority issues, to support assessments of the impact of environmental hazards on human health.²

¹ Available at: <http://www.euro.who.int/en/what-we-do/data-and-evidence/evidence-informed-policy-making/health-evidence-network-hen>

² Available at: <http://www.euro.who.int/en/what-we-do/data-and-evidence/environment-and-health-information-system-enhis>

Here our objective is also to develop an accessible survey tool that is of immediate interest to national policy and decision-makers seeking detailed data monitoring for key areas of health policy – integrated care and health workforce strategic planning.

As researchers, many aspire to grow and expand their knowledge and experiences with qualitative design in order to better utilize diversified research paradigms for future investigations. Very often researchers couple forms of data collection in order to provide a well-rounded collection of information and therefore develop future intervention tools (Adèr & Mellenberg, 2008). Also our qualitative research provided the basis to develop and build this questionnaire survey so as to inform future policy actions in the field.

A questionnaire can be a useful tool for gathering information. It can be used for survey research, gathering data or testing a hypothesis. The preliminary descriptive survey results can prove useful for planning more sophisticated survey studies with a view to identifying areas where problems occur or where changes are required, to understand and what can be done to provide alternate solutions to the problems. In this study an attempt is made to understand the relationships between different variables, and the purpose of the survey becomes to future diagnosis or analysis of national policies on integrated care and workforce strategic planning (Adèr & Mellenberg, 2008). Our intention is not to gather data and test hypothesis but to develop and discuss the value of a questionnaire as a useful tool for diagnosis and analysis of national policies on integrated care and health workforce strategic planning.

2.6.1 Construction method

A number of different strategies for instrument construction are available depending on researcher's goals. Questions can derive from previous literature research or can simply come from an issue that needs to be explored. Osstervald (1996, cited in Adèr & Mellenberg, 2008) described what we found to be one of the most important strategies - the Construct Method. According to him this strategy is of a deductive nature, which means it starts from a theoretical framework or a conceptual analysis of hypothetical constructs³.

³ A hypothetical construct is an explanatory variable which is not directly observable (Bunge, 1974).

To build our questionnaire, as a starting point a review of the existing literature was made and data were crossed with the interview results to identify our constructs. As we gathered information we found two main areas of intervention: integrated care and workforce redesign as a workforce strategic planning related strategy. Therefore, the questionnaire has two parts: the first part aims at explore the perspectives in integrated care policies and retrieve information about the context in which those policies are being developed; the second part intends to retrieve information on how skills mix policies are being explored as policy solution for health system related problems.

Items on the questionnaire also derived from previous findings in both areas. According to Jackson (1971, cited in Adèr a&Mellenberg, 2008) the construction of the items starts from a theoretical definition of the construct. Items are derived from this definition and are viewed as a sample of the content of the construct. For example, we could distinguish three dimensions/ constructs to the adopted strategies to promote health and social systems integration: (1) integrate health care organizational structures; (2) integrate workforce skills; and (3) integrate financing systems. For each of these dimensions statements were written that comply with the content of the dimension/ construct. (Figure 1)

9.1 To integrate health care organizational structures it is necessary to:

	strongly disagree	disagree	uncertain	agree	strongly agree
a) Build up a network of health and social services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Decentralize social and health care to the regions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Create coordination tools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Establish care programmes that map out patients steps through the net	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Setup local strategic partnerships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Setup intermediate care facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 1: Example of items construction according to the theoretical definition

Because constructs are not directly observable sometimes researchers need to attach them variables or ranking scales to measure the results. In some of our questions a five point Likert-type scale was used to measure respondents' level of agreement or the assigned importance to a construct. The response scale will be further discussed.

2.6.2 Response categories and scales

The choice and design of response categories are among the most critical decisions about a questionnaire as they can be conditioned by the questions format. Questions can be classified as "open-ended" or "closed questions". In the first case the range of possible answers to the question is not provided. The onus is placed on the respondent who is expected to formulate and record answers in his or her own words. Open-ended questions have the ability to capture answers unanticipated by questionnaire designers. On the other hand answers are often too vague or general to meet question objective (Schuman & Presser, 1979, 1981; Schaeffer and Presser, 2003).

The usual format of a closed question is to ask a question, then provide a range of answers and ask the respondent to tick the appropriate one. Commonly these type of questions are in the form of multiple choices either with one answer or with check-all-that-apply, but also can be in scale format, where respondent should decide to rate the situation in along the scale continuum. Closed questions are easier to code and analyze and compare across surveys. Response alternatives must also be meaningful and capture the intended range of responses. When respondents are asked to select only one response, response alternatives must also be mutually exclusive (Schuman & Presser, 1979).

For the purpose of our questionnaire we combined both closed and open-ended questions. The answers alternatives were developed using results of the earlier survey. Some of our questions were followed by one open ended question to allow an alternative response that may not have been identified previously (Figure 2), or in order to achieve a better insight into a specific approach (Figure 3).

2. Within your national health system, which of the following drivers for integrated care, do you recognize? You may select more than one option

- ☐ a) ageing population
- ☐ b) the multi-system nature of chronic diseases
- ☐ c) hospital-centered care system
- ☐ d) the insufficient provision of community care services
- ☐ e) the lack of cooperation among health and social care providers
- ☐ f) fragmentation of services delivered
- ☐ g) Rurality
- ☐ h) Professionals shortages
- ☐ i) Increased spending on hospital care
- ☐ j) Increased lenght of stay in hospital setting
- ☐ k) advances in health care offer
- ☐ l) none of the above
- ☐ m) Other

Figure 2: Example of a closed question followed by on open-ended question

5. Do you identify diverse regional approaches to Integrated Care Programs in your National Health System?

- ☐ No
- ☐ Yes (please give additional information)

Figure 3: Example of a closed yes-or-no question followed by on open-ended question

Coming back to the closed questions, in some instances a simple range of responses is not adequate. As we intend to get the shades of opinion or the levels of importance on integrated care and workforce redesign related issues we thought it would be beneficial to use a rating scale. Also including scales in extant questionnaires makes question answering easier for the respondent (Adèr & Mellenberg, 2008; Krosnick, Judd, & Wittenbrink, 2005).

Rating scales length varies a lot as they are flexible enough to adapt to researcher needs. As we mentioned before we decided to use a five-level Likert-type scale in some questions as it

is one of the most universal methods for survey collection, and responses are easily quantifiable through mathematical analysis (Krosnick, Judd, & Wittenbrink, 2005).

Likert-type scales are also versatile as they require the use of ordinal variables - a type of categorical variable for which the levels can be ordered or ranked – to measure results. This aspect makes them versatile because researchers are allowed to label freely the different categorical variables since they order items from one extreme to the other and rank them. Authors described that Likert scales have been adapted into other formats using response keys other than the agree-disagree. The format of a typical five-level Likert-type scale is: (1) Strongly disagree; (2) Disagree; (3) Uncertain; (4) Agree; (5) Strongly Agree. However, different categorical variables are often used with a different semantic format: (1) Not important; (2) Of little Importance; (3) Moderately important; (4) Important; (5) Very important (Parks, Parks, & Ogden, 1999). Nevertheless, there is no consensus on how to label rating scale categories, or on the impact labeling has on response variability. Researchers are allowed to label freely since categories are balanced (there's an equal number of categories for participants to answer either positively or negatively or to state their agreement or disagreement (Peterson, 2000).

For the purpose of our study the rating scale will allow respondents to answer within a degree of agreement with the issues previously identified in the literature. For the following example (Figure 4) we previously identified some of the benefits of integrated care programs, so we can ask participants to classify their level of agreement with those. In another question we asked participants to classify the importance of the driving forces (previously identified in this research) behind the revision of health care teams skills within their health system (Figure 5).

11. Please classify your agreement with the following claimed benefits to promote integrate care programs.

	strongly disagree	disagree	uncertain	agree	strongly agree
a) Continuity of care between services with different levels of expertise	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Easy access by geographic proximity to patients home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Release of hospital resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Adjustment of care to the level of patient dependency	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Facilitate the social integration of society's more vulnerable groups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Better access to flexible community services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Improved system efficiency through better coordination of care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) Patient centered care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 4: Example of a question using a typical five-level Likert-type scale

17. Please specify the importance of the following driving forces in your national health system, behind the need to review health care teams mix for integrated care programs.

	unimportant	of little importance	moderately important	important	very important
a) Cost containment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Health workers distributional imbalances	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Improve quality of care and patient satisfaction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Facilitate the interface between organizations, settings and workers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Shift from hospital based to community based services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Shortages of skilled staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 5: Example of a question using a categorical variation of five-level Likert-type scale

As many research tools, Likert-type scale has failures. It may fail to measure the true attitudes of respondents as answers may be influenced by previous questions or previous feelings on the subject. They may also avoid choosing the “extremes” options on the scale, because of the

negative implications involved, even if an extreme choice would be the most accurate (Krosnick, Judd, & Wittenbrink, 2005).

When the objective is to know the degree of preferences or the relative weight given by the respondents to different items researchers may design a ranking scale (Adèr & Mellenberg, 2008). For example, to measure which factors call for earlier intervention on what concerns health professionals involved in integrated care programs we framed a question using a 1 to 6 ranking scale as showed in Figure 6.

14. On what concerns the health professionals involved in IC programs, which of the following factors call for earlier management intervention? Please order them from 1(requiring an earlier intervention) to 6 (the last requiring intervention)

<input type="checkbox"/>	a) Professionals lack of knowledge on integrated care model
<input type="checkbox"/>	b) Unclear competencies assigned to the coordination teams
<input type="checkbox"/>	c) Precarious employments status
<input type="checkbox"/>	d) Health professionals shortages
<input type="checkbox"/>	e) Resistance to change
<input type="checkbox"/>	f) Inadequate health professionals skills mix

Figure 6: Example of a question using a rating scale

To summarize, a total of 35 questions were issued. From those 22 are closed questions and 13 are closed questions followed by an open-ended question. 12 are in the format of Likert-type scale and only one uses a ranking scale.

2.6.3 Pre-test

Although testing was not a goal for the present research, as questionnaire items were already assembled, we decided to conduct a small scale preliminary pre-test – expert’s test. Our goal was to evaluate its feasibility and improve the study design prior to use it in such a full-scale project as a health policy assessment.

Key decision makers were drawn from the population of interest. We searched for informants whose expertise covered both content and item writing experience (Adèr & Mellenberg, 2008). An essential criteria was that we could retrieve opinions from a variety of European countries. Therefore we ask the European Union of Private Hospitals (UEHP) collaboration as their members represent national associations from European countries. We then found a group of eight experts from six countries willing to collaborate: two from France and England, and one from Portugal, Belgium, Italy and Spain. Nevertheless, we also get cooperation of two researchers from the Portuguese National School of Public Health.

Experts were asked to complete the first version of questionnaire and were following debriefed on the following aspects:

- Wording
- Rating forms
- Response categories
- Coherence
- Length of questionnaire
- Perceptibility of questions
- Time to complete the questionnaire
- Questionnaire format

The information provided was used to revise the questionnaire. Two more questions were added and five questions were rephrased. The average time to complete the questionnaire was thirty minutes. On chapter 3, section 3.4 the full questionnaire is presented in detail.

As we already mentioned this questionnaire intends to be a future assessment tool for health policies and decision-makers at the European level. In order to satisfy such a comprehensive and ambitious goal the questionnaire must be further developed so it can be delivered to a large and representative number of experts in this field.

In a parallel research we already started to assess the appropriateness of the instrument and the importance of the information that could be retrieved from it (Adèr & Mellenberg, 2008).

A second version of the questionnaire was submitted to a new group of experts. The selection process was similar to the first group and we were provided with a list of eighty experts likely to participate from the 27 European countries. The questionnaire was built through survey monkey online platform⁴ and the link⁵ was first sent to participants by email on the on the 30th April, 2013. Till date we got five completed questionnaires by experts from four European countries: Sweden, UK, Austria and France.

⁴ SurveyMonkey is a web based survey development tool. It allows researchers to create polls and surveys and retrieve and analyse data afterwards. Data available at www.surveymonkey.com

⁵ Survey Link: <https://www.surveymonkey.com/s/AAntunesPMoreira> (closed at the 3th June 2013)

CHAPTER 3

Results

3.1 Systematic literature review on integrated Care

Data contained in this section resulted from the methodological approach described in section 2.3. We analyze the meaning and the scope of integrated care and report common integration strategies within some European countries.

3.1.1 The context of integrated care in Europe

Since the “rediscovery” of public health in the 1990s many European countries abandoned the traditional orientation towards a health system almost exclusively oriented to treat illness through high-tech hospital-based services and rekindled the approach to some form of community-based health care system (WHO, 1981).

Furthermore, it is widely recognized that the reorientation of health care services from hospital-based to ‘community-based’ care requires integration between social and health care institutions and organizations (Mays, 2013; Rogers & Veale, 2003; Silber, 2003).

The World Health Organization first defined the integration of care in 2002 as “a concept bringing together inputs, delivery, management and organization of services related to diagnosis, treatment, care, rehabilitation and health promotion. Integration is a means to improve services in relation to access, quality, user satisfaction and efficiency” (Grone & Barbero, 2002).

Over the past decade, Integrated Care has become an integral part of health policy reform across Europe. In 2003, the World Health Organization proposed that it was one of the key pathways to improve primary care (WHO, 2003).

“Two integrated health care models, the chronic care model and its extension – WHO’s innovative care for chronic conditions framework – promote primary health care concepts: intersectoral partnerships, community participation and seamless population-based care. Evidence supports the use of these integrated models as a means of implementing primary

health care principles, with demonstrated reduction in health care costs, lower use of health care services, and improved health status” (WHO, 2003, p. 108).

In 2005, the European Commission declared integrated care as vital for the sustainability of social protection systems in Europe (OECD, 2005). The 2007 WHO Framework for Action emphasizes that the strengthening of health systems requires an integrated response that recognizes the inter-dependence of each part of the health system. It also states that there’s fundamental to help develop mechanisms for integrated service delivery where possible, that is to say, mechanisms that encourage continuity of care for an individual where needed across health conditions and levels of care and over a lifetime (WHO, 2007).

In 2012 the European Commission created the Action Group on integrated care with the aim to reduce the unnecessary hospitalization of older people with chronic conditions, through the effective implementation of integrated care programs and chronic disease management (European Commission, 2012a).

3.1.2 Driving forces

Though strategies to achieve better integration may differ, the driving forces for the reform process are similar in many countries. On the demand side, demographic and epidemiological changes expectations (ageing population, multi-system nature of chronic diseases), require a reform of the health system. On the supply side, the development of medical technology and information systems and restrictions from economic pressures call for reforms to contain costs. Others factors such as human resources, hospital-based care systems, insufficient provision of community care services, lack of cooperation among health and social care providers, fragmentation of the system and the rural context(infrastructures and accessibility disparities) are also pointed as driving forces to health systems integration (Antunes & Moreira, 2011).

Ageing Population

From the sixties up to now the population number in Europe has steadily increased, growing at a faster pace during the 1960s, and slowing down after the 1970s. Between 1980 and 2008

the European inhabitants have risen by about 9%, but the increase between 2000 and 2008 has only been close to 3%. During the next decades the number of European inhabitants is expected to increase rather slowly until 2040 (about +5% between 2008 and 2040), then to start falling until 2060.

Table 4: Total population and population projections ⁽¹⁾ (at 1 January, million)

	1960	1970	1980	1990	2000	2008	2010	2020	2030	2040	2050	2060
EU-27 ⁽²⁾	402.6	435.5	457.1	470.4	482.8	497.4	499.4	513.8	519.9	520.1	515.3	505.7
Euro area ⁽³⁾	257.1	278.7	292.5	300.9	312.7	326.9	328.3	339.5	344.4	345.5	342.2	335.1
Belgium	9.1	9.7	9.9	9.9	10.2	10.7	10.8	11.3	11.7	12.0	12.2	12.3
Bulgaria	7.8	8.5	8.8	8.8	8.2	7.6	7.6	7.2	6.8	6.3	5.9	5.5
Czech Republic	9.6	9.9	10.3	10.4	10.3	10.4	10.4	10.5	10.4	10.2	9.9	9.5
Denmark	4.6	4.9	5.1	5.1	5.3	5.5	5.5	5.7	5.8	5.9	5.9	5.9
Germany	72.5	78.3	78.2	79.1	82.2	82.2	82.1	81.5	80.2	77.8	74.5	70.8
Estonia	1.2	1.4	1.5	1.6	1.4	1.3	1.3	1.3	1.3	1.2	1.2	1.1
Ireland	2.8	2.9	3.4	3.5	3.8	4.4	4.6	5.4	5.9	6.2	6.5	6.8
Greece	8.3	8.8	9.6	10.1	10.9	11.2	11.3	11.6	11.6	11.6	11.4	11.1
Spain	30.3	33.6	37.2	38.8	40.0	45.3	46.7	51.1	52.7	53.3	53.2	51.9
France ⁽²⁾	45.5	50.5	53.7	56.6	60.5	63.8	62.6	65.6	68.0	69.9	71.0	71.8
Italy	50.0	53.7	56.4	56.7	56.9	59.6	60.0	61.4	61.9	62.0	61.2	59.4
Cyprus	0.6	0.6	0.5	0.6	0.7	0.8	0.8	1.0	1.1	1.2	1.3	1.3
Latvia	2.1	2.4	2.5	2.7	2.4	2.3	2.2	2.2	2.0	1.9	1.8	1.7
Lithuania	2.8	3.1	3.4	3.7	3.5	3.4	3.3	3.2	3.1	2.9	2.7	2.5
Luxembourg	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.7
Hungary	10.0	10.3	10.7	10.4	10.2	10.0	10.0	9.9	9.7	9.4	9.1	8.7
Malta	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Netherlands	11.4	13.0	14.1	14.9	15.9	16.4	16.5	16.9	17.2	17.2	16.9	16.6
Austria	7.0	7.5	7.5	7.6	8.0	8.3	8.4	8.7	9.0	9.1	9.1	9.0
Poland	29.5	32.7	35.4	38.0	38.7	38.1	38.1	38.0	37.0	35.2	33.3	31.1
Portugal	8.8	8.7	9.7	10.0	10.2	10.6	10.7	11.1	11.3	11.5	11.4	11.3
Romania	18.3	20.1	22.1	23.2	22.5	21.5	21.3	20.8	20.0	19.2	18.1	16.9
Slovenia	1.6	1.7	1.9	2.0	2.0	2.0	2.0	2.1	2.0	2.0	1.9	1.8
Slovakia	4.0	4.5	5.0	5.3	5.4	5.4	5.4	5.4	5.3	5.1	4.9	4.5
Finland	4.4	4.6	4.8	5.0	5.2	5.3	5.3	5.5	5.6	5.5	5.4	5.4
Sweden	7.5	8.0	8.3	8.5	8.9	9.2	9.3	9.9	10.3	10.5	10.7	10.9
United Kingdom	52.2	55.5	56.3	57.2	58.8	61.2	62.0	65.7	69.2	72.0	74.5	76.7
Croatia	4.1	4.4	4.6	4.8	4.5	4.4	:	:	:	:	:	:
FYR of Macedonia	1.4	1.6	1.9	1.9	2.0	2.0	:	:	:	:	:	:
Turkey	27.1	34.9	44.0	55.5	66.9	70.6	:	:	:	:	:	:
Iceland	0.2	0.2	0.2	0.3	0.3	0.3	:	:	:	:	:	:
Liechtenstein ⁽³⁾	16.8	20.9	25.8	28.4	32.4	35.4	:	:	:	:	:	:
Norway	3.6	3.9	4.1	4.2	4.5	4.7	4.8	5.2	5.5	5.7	5.9	6.0
Switzerland	5.3	6.2	6.3	6.7	7.2	7.6	7.7	8.2	8.6	8.9	9.1	9.2

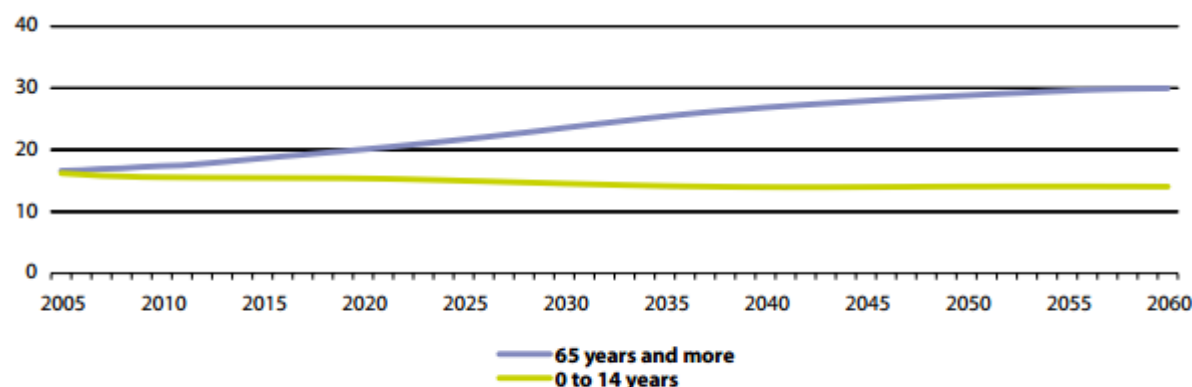
⁽¹⁾ From 2010 onwards the data refer to projections (EUROPOP2008 convergence scenario).

⁽²⁾ Excluding the four French overseas departments (French Guyana, Guadeloupe, Martinique and Réunion) for 1960 to 1990 and from 2010 onwards.

⁽³⁾ Thousand instead of million.

Source: (European Commission, 2010, p. 163)

European Union (EU) population is not only growing, but also the age structure is becoming older as post-war baby-boom generations reach retirement age. The share of older persons in the total population is expected to increase significantly from 2010 onwards. Persons aged 65 or over will account for 30% of the EU27's population by 2060, compared to approximately 17% in 2008.

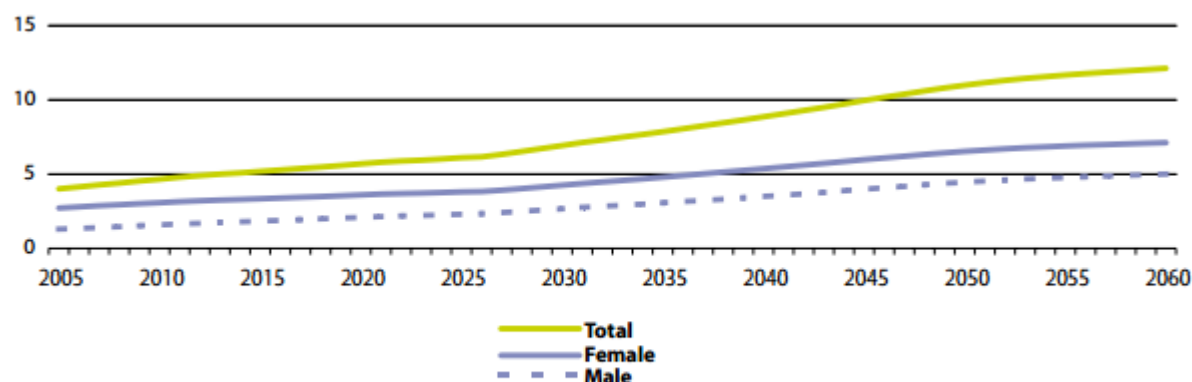


(¹) From 2008 onwards the data refer to projections (EUROPOP2008 convergence scenario).

Figure 7: Proportion of the population aged 0-14 and 65 and more, EU-27⁽¹⁾ (% of total population)

Source: (European Commission, 2010, p. 168)

The rate of people aged 80 and over will shift in Europe from about 4,4% in 2008 to 8% in 2035 and 12,1% in 2060. Furthermore, people are living longer, as life expectancy continues to increase (HOPE, 2011).



(¹) From 2008 onwards the data refer to projections (EUROPOP2008 convergence scenario).

Figure 8: Proportion of the population aged 80 years and more, EU-27⁽¹⁾ (% of total population)

Source: (European Commission, 2010, p. 168)

Those demographic trends are posing challenges to health systems since the need for health and social services typically increases at retirement age, and accelerates over the age of 75 years. They will have a strong impact on the future design of healthcare systems throughout Europe, since they will likely result in a considerable increase in the need for professional

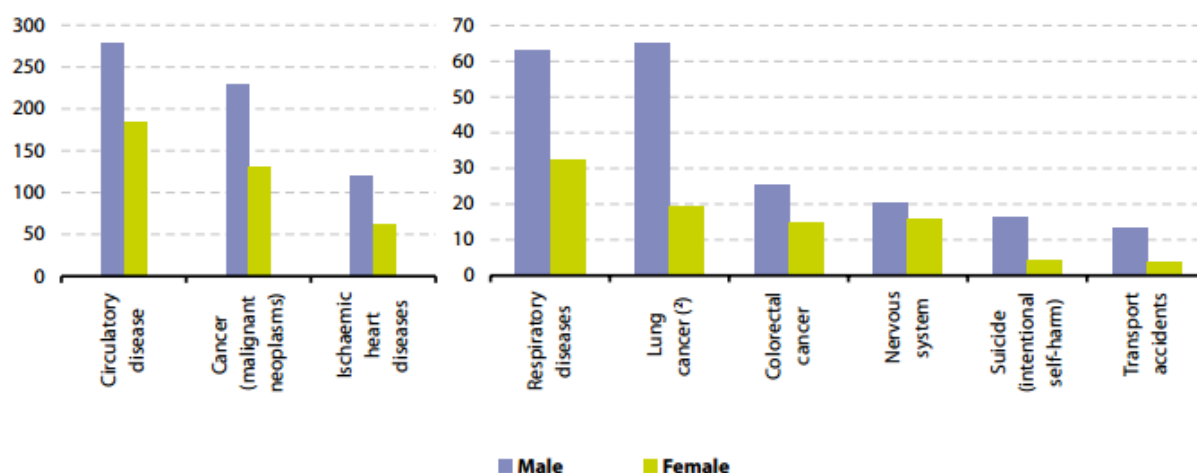
services, social care and healthcare provision. There will be important implications for the sustainability of social security systems and public health (Grone & Barbero, 2002; HOPE, 2011).

Chronic diseases

WHO defines chronic diseases or “noncommunicable diseases” as diseases of long duration and generally slow progression. Chronic diseases are the leading causes of death and disability worldwide. Disease rates from these conditions are accelerating globally, advancing across every region and affecting all socioeconomic classes. The World Health Report (2003) indicates that the mortality, morbidity and disability attributed to the major chronic diseases currently account for almost 60% of all deaths and 43% of the global burden of disease. By 2020 their contribution is expected to rise to 73% of all deaths and 60% of the global burden of disease (WHO, 2003).

The link between disease and age is crucial from an economic and public policy standpoint, but older people are not the only ones affected by chronic diseases. Numbers of young and middle-aged people having some form of chronic health problem are also rising. The WHO’s Global Burden of Disease update report estimated that 72% of all deaths before the age of 60 years in 2002 were due to chronic or noncommunicable conditions in high-income countries, whereas communicable diseases accounted for only 8% and injuries for 21% (WHO, 2008a).

As displayed in Figure 8 the data provided by the European Commission in the EUROSTAT Statistical Book 2011 also suggest that chronic diseases are the main cause of death within the EU-27 (European Commission, 2011).



(⁽¹⁾) Provisional; note the differences in the scales employed between the two parts of the figure; the figure is ranked on the average of male and female.

(^(?)) Malignant neoplasms of the larynx, trachea, bronchus and lung.

Figure 9: Causes of death – standardized death rate, EU-27, 2008⁽¹⁾ (per 100 000 inhabitants)

Source: (European Commission, 2011, p. 169)

These findings suggest that chronic disease can no longer be considered just a problem of the elderly.

It is also important to note that chronic conditions are characterized by the presentation of multiple disorders with functional, psychological and social dimensions which require much more complex forms of treatment than the ones currently provided in acute hospitals. It can be better dealt with by integrated forms of health and social services provision. According to the World Health Organization (2008) comprehensive and integrated action at country level, led by governments, is the means to achieve success (WHO, 2008).

Furthermore the already mentioned World Health Report (2003), also states that action to prevent these major chronic diseases should focus on controlling these and other key risk factors in a well-integrated manner. An integrated approach responds not only to the need of intervention on major common risk factors with the aim of reducing premature mortality and morbidity of chronic noncommunicable diseases, but also the need to integrate primary, secondary and tertiary prevention, health promotion, and related programs across sectors and different disciplines (WHO, 2003).

Medical Technology and Information Systems

Developments in medical technology and information systems have a major impact on the primary health care and hospital system and offer new opportunities for integrating departments, institutions, professionals, and improving access to services for patients.

The use of information technology has great potential for designing and facilitating integration efforts. Such technology can serve to support medical homes and providers in managing their target populations and providing meaningful information that supports the best possible health care for patients and their families. It can also provide client-level information that is relevant across providers and delivery settings and can identify gaps in care as well as evidence-based best practice guidelines (Bates, 2000; Detmer, 2000).

Information and communication technologies support the empowerment of citizens, they allow better-informed patients and carers and have the potential to improve the quality of clinical care by facilitating the provision of feedback to individual health professionals on the outcomes of care they deliver. They also help to integrate multi-professional teams and institutions, and allow better planning of services based on epidemiological investigations and outcomes (Detmer, 2000; Clifford, Hall-Clifford, & Hamish, 2008).

Already in 2000, in a study on usage of information technology to access confidential patient data, Chadwick argued that despite some technical issues remain to be solved, such as confidentiality of electronic patient records, financing and quality of services, information systems would continue to be a driving force for the development and integration of health care systems (Chadwick, et al., 2000) .

In a hospital or a clinic, coordination between healthcare workers is facilitated by frequent formal or informal meetings and by a large number of exchanged and available documents such as electronic health records and laboratory results. In areas such as home care, however, the team consists of distributed healthcare professionals who rarely meet, and therefore, have trouble coordinating their work. Despite the mobile nature of home care, mobile information technology tools giving access to electronic health records are rarely available. Generally,

documentation is stored on stand-alone systems or more likely on paper, and the systems used in different organizations are generally autonomous and incompatible. In non-integrated organizational structures and information systems, professionals often spend time searching for information instead of taking care of patients (Protti, 2009).

As Winthereik and Bansler (2007) stated, good communication across organizational and professional boundaries is arguably the most crucial aspect to successful integrated care programs. Effective integration of care requires that healthcare professionals share information about – and with – patients at appropriate points in the care or treatment process. It is increasingly hard to imagine integrative initiatives without a strong information management and information and communication technology component.

Economic Pressures

According to the European Hospital and Healthcare Federation (HOPE), in 2008 the total health expenditure per capita has increased in all European countries, compared with the ten previous years. In most of them it has more than doubled. (HOPE, 2011)

“A major part of health expenditure is handed over to the public finance. It includes expenditure incurred by state, regional, local governments and social security schemes, encompassing publicly-financed investment in health facilities and capital transfers to the private sector for hospital construction and equipment. In 2008, the share of public sector health expenditure was higher than 70% in most European countries, and between 1998 and 2008 the share of public spending on healthcare markedly rose with few exceptions” (HOPE, 2011, p. 10).

In the last ten years, many health care systems have been reformed with the aim of narrowing the gap between the welfare economic ideal and actual health care practice. In order to approach the ideal efficient outcome (i.e. one in which health care is delivered which best meets the preferences of consumers and which is delivered against least costs), organizational and financial health care structures have been changed. Stimulation of competition, introduction of risk adjusted payment systems for insurers and new out of pocket payments

are only but a few examples. On the supply side some strategies are also being implemented such as integrated health care (Paulus, Raak, Merode, & Adang, 2000).

The development and introduction of integrated health care means that care providers have to fine-tune their activities and work together with other providers. Co-ordination, co-operation and responsibility sharing are necessary pre-conditions for integrated health care delivery. According to Nell (1998) these conditions offer the opportunity to achieve cost savings. Since providing organizations (e.g. hospitals, home care organizations, nursing homes, general practices, etc.), for the greater part, bear the additional costs of developing and introducing integrated health care, they will try to limit these costs. If the costs of integrated care are less than the costs of regular (non-integrated) care, providing organizations will probably be interested in investing in integrated care.

Paulus et al (2000) indicate that besides economies of scale, possible cost savings of integrated care include reductions in the number of patients admitted and in the demand for care, reduced waiting lists and a decrease in the totally invested time in health care delivery. Substitution from (more expensive) specialist care to (less expensive) general care can bring forward additional cost savings.

Authors defend that to a certain extent, integrated care can also be beneficial to care providers. Integrated care offers possibilities to extend the set of products and services which can be delivered, increases the opportunities to meet the preferences of consumers, maintains or improves the quality of care and, under certain conditions, establishes cost savings (Paulus, Raak, Merode, & Adang, 2000).

Paulus et al (2000) performed a study analyzing whether integration of care may be categorized as a potential Pareto improvement (allocation of products is efficient if re-allocation makes somebody better off, without making somebody else worse off). They categorized integrated care costs and conditions as “short term” costs (e.g. transition costs) and as “coping” costs (the ability to adapt to changed circumstances). Transition costs are necessary for effecting the change towards integrated care. After the formation of integrated health care, however, these costs no longer arise. Costs in terms of fine-tuning, co-operation,

strain and adherence to a client-oriented care structure are associated with coping. It can be expected that affected parties will become more and more acquainted with integrated health care. In the long run, this means that affected parties will have the opportunity to grow accustomed to changed circumstances. In the long run, it can thus be expected that the benefits of integrated care will outweigh the costs.

Human Resources

In the EU, it is estimated that almost 9% of the working population, including health professionals, administrative workers and laborers, work in the health and social sectors. The financial constraints, also consequence of the economic crisis, are leading in most European countries to a reduction in the resources available for healthcare professionals, reducing the possibilities of hiring new staff (HOPE, 2011).

WHO statistics estimate the shortage amounts to 2.4 million physicians, nurses and midwives. At the same time, the number of healthcare professionals is expected to dramatically drop off over the next decade due to ageing while several countries, especially in central and Eastern Europe are experiencing migrations of their healthcare workforce (HOPE, 2011).

Health workers are central to managing and delivering health services in all countries. The performance of any organization depends on the availability, efforts and skill mix of the workforce. The effectiveness of health care systems and the quality of health services depend on the performance of health workers, and that results from their knowledge, skills and motivation (WHO, 2006; Kidd, 2009).

Ensuring an appropriate, trained and sustainable workforce is clearly a major issue for European health policy now and in the future. While demand for health workers is expected to escalate in all countries, health workforce issues remain among the most complex and difficult areas to modify. All member states in the EU are faced with deep-rooted problems of health workforce imbalances, aggravated by demographic, technological, political, socioeconomic and epidemiological changes, in particular, factors related to population ageing and migration (Eurofound, 2012; WHO, 2006; Kidd, 2009).

Also the growing proportion of patients with debilitating and chronic conditions requires the provision of a mix of services across settings, using different staff, with much of the care being home-based or in primary care settings – something for which many European countries still lack the necessary infrastructure (WHO, 2006).

These new paradigms of care are driving a shift from hospital care to community and intermediate care which requires new skills, disciplinary collaboration and continuity of care – as demonstrated by innovative integrated care approaches in many European countries (Antunes & Moreira, 2011).

Hospital-Based Care Systems

A common feature to all the European countries is the massive predominance of public funding in inpatient care: even if a part of the total health expenditure is always funded by private insurances and out-of-pocket payments, almost the entire amount of inpatient health expenditure is publicly financed (European Observatory on Health Systems and Policies, 2009).

About a third of total health expenditure supports the delivery of inpatient care in European countries. In 2008, expenditure on inpatient care represented on average 35% of overall healthcare spending (19% in Portugal). Despite most European health systems are hospital based care systems this paradigm has been changing in the last 10 years, highlighted by the slow growing of expenditure on in patient care compared to the total health expenditure. In most European countries spending on inpatient care as a percentage of overall healthcare spending remained the same or decreased, as a result in several cases of policies aiming at controlling expenses, gain efficiency and increase productivity in hospitals (HOPE, 2011).

The streamlining of care delivery started from a sharp reduction in the size of secondary care institutions and moved towards more integrated and efficient patterns of care, overcoming almost everywhere the hospital-based model of healthcare system. This was possible thanks to a package of financial and organizational measures addressed to improve coordination

between acute care, tertiary care and social care, encouraging integration between primary, hospital and ambulatory care (WHO, 2009).

Community-Based Care Infrastructures and Accessibility disparities

The shifting trend of care from hospital to the community (home-based care) in Europe is particularly important due to the disparities in the access to care. People living in the countryside face geographical barriers that delay or even prevent their access to institutions with adequate and specialized care. They eventually get the care but after being discharged from acute care institutions don't have the appropriate home and social support (Rygh & Hjortdahl, 2007).

According to the European Observatory on Health Systems and Policies (2012), there are huge differences in the density of home-care networks across Europe. There seems to be not only a north to south gradient but also a west to east gradient. Countries such as Denmark, England, France, Germany, the Netherlands, Norway, Sweden and the Flanders region in Belgium offer a dense network of home care. Countries on the south-eastern rim of Europe (e.g. Bulgaria, Cyprus, Romania and Slovakia) have the thinnest care networks in the EU and care of ill or frail people is the responsibility of informal carers. Also, the availability of services differs within countries too. Mountains, sea, sparse road and transportation networks also represent barriers for the delivery of care to those with homes in remote places. In such regions, home visits by physicians and mobile rehabilitation services are restricted, as in the Czech Republic.

A considerable gap between urban and rural areas is observed in the majority of countries. Rural areas show a lack of services, poor infrastructure and limited availability of professional caregivers. Often, the inhabitants of villages and small communities do not have sufficient opportunity to use either home care or home nursing or other health and social services (as in Poland), and their choice is limited. In Portugal, waiting lists for home care are longer in villages than in cities. In some countries (e.g. Bulgaria and Latvia) rehabilitation or specialized support (personal assistants, self-help organizations of people with disabilities, emergency calls, accessible housing, etc.) are available only in large cities. In other countries

(particularly in the Czech Republic) competition between medical care and social care impairs the home-care infrastructure – regions with well-developed medical facilities and services do not have a dense network of home care and vice versa (European Observatory on Health Systems and Policies, 2012).

Geographical imbalances may influence access in multiple ways. These imbalances could be addressed by creating community-based care facilities and implementing coordination tools between levels of care (Rygh & Hjortdahl, 2007).

“Integration of social services and health care on all levels (policy, eligibility, provision, reimbursement, quality control), particularly the integration of home care and home nursing, is an indispensable condition for optimal services” (European Observatory on Health Systems and Policies, 2012, p. 67).

Lack of cooperation between levels of care and Fragmentation

The existing models of health care provision, often subject to fragmentation and insufficient coherence, appear to be one of the main causes limiting efficiency of interventions and quality of health outcomes (Protti, 2009).

The organizational differences between acute and primary care and between health and social care institutions create coordination and communication challenges between various departments, divisions and units. Inside the hospital setting, the complexity in clinical processes, routines, variation in long and short clinical pathways, patient logistics and supply challenges, make the coordination system and communication network much more complex. Likewise in the community setting the diversity of clinical pathways, geographical imbalances, and the multiplicity of players involved in the care process, also difficult the coordination process (Nolte, et al., 2012; Stange, 2009).

The challenges to coordinating health and social care are further complicated by the fact that the health care services involves diverse professional groups, employed by different organizations and agencies, and have their loyalty to their professional organizations. And yet

coordinated health care services require multidisciplinary teamwork, which is working together in a common effort to save the interest of a patient (Nolte, et al., 2012).

This complexity offers serious challenges to coordinating comprehensive health and social care services to a single helpless patient who depends on the help that he or she can get from the health care personnel. Failure to receive the needed help, and not knowing who offers what and where it come from, besides incomplete discharge information, wrong references, wrong diagnosis, failed contact etc., are challenges and difficulties faced by both patients and health care workers in their daily interaction and duties (Henao, Vazquez, & Lorenzo, 2009; Terraza, Lorenzo, & Vazquez, 2006).

Also historically, many factors have contributed to divide various types of health care institutions and services on the one hand, and administrators, physicians, nurses and allied professionals on the other, such as: differing rules, inter-sectorial boundaries (between health care, home care, social care...), different funding, and institutional and professional cultures. Without integration at various levels, all aspects of health care performance suffer (Coid & Davies, 2008).

In 2007 the WHO Director-General stated that “we need a comprehensive, integrated approach to service delivery. We need to fight fragmentation” (Chan, 2007).

3.1.3 The meaning and focus of integrated care

Acoording to Kodner (2002, p.1) “integrated care has become an international health care buzzword, as it is attracting considerable attention in Europe, North America and other countries”. Around the world it is considered as an important framework to develop better and more cost-effective health systems, and to cope with socio-demographic and structural challenges (Kodner & Spreeuwenberg, 2002).

Although health policy researchers, practitioners and policymakers are increasingly referring to the need to introduce integrated care into health policies, the term still remains vague for many. “Like a Rorschach test, integrated care has many meanings: it is often used by different people to mean different things” (Kodner & Spreeuwenberg, 2002, p.7).

Terminology plays a critical communications role in terms of the way we think about, shape, deliver, manage, regulate, finance, and evaluate health care. The word “integration” stems from the Latin verb *integratio*, that is, “to complete”. The adjective “integrated” means “organic part of a whole”, or “reunited parts of a whole”.⁶ It is mostly used to express the bringing together or merging of elements or components that were formerly separate.

All organizations and systems are, to some extent, hierarchical structures that are comprised of separate, but interconnected components; these components are supposed to play complementary roles in order to accomplish their joint tasks. However, the division, decentralization, and specialization found in the architecture of more complex organizations usually interfere with efficiency and quality goals. Therefore, the fulfillment of system aims necessitates co-operation and collaboration among and between the various parts of the organization or system. In this sense, integration is the “glue” that bonds the entity together, thus enabling it to achieve common goals and optimal results (Pfeffer, 1982).

These ideas are also applicable to healthcare whether we are referring to its institutions and providers, or the health, social service and related systems in which they operate. Health systems and health care institutions are among the most complex and interdependent entities known to society.

In order to clarify the Integrated Care concept a literature review was performed earlier in this study. The purpose of the review was to identify different approaches to integrated care and retrieve a number of experiences and approaches of working in some European countries. (Antunes & Moreira, 2011).

On what concerns integrated care definition, the obtained data allow us to say that despite integration models have a similar background it cannot be argued that there is a European consensus about the concept of integrated care. For some it means the whole health system restructuring, for others the improvement of relations between parts of the system (health and social care, or acute and primary care, etc.), and for others it means a partnership between providers, organizations, and professionals.

⁶ <http://www.thefreedictionary.com/integrated>. Accessed in the 14th, January, 2013

Nevertheless we grouped the definitions according to their sectorial focus as following:

Community-Based Care: it refers to “a well-planned and well-organized set of community-based services and care processes targeted at the multifaceted/multi-dimensional needs/problems of an individual client or group of persons with similar needs/problems” (Santana, Dias, Souza, & Rocha, 2007). Highlights the “collaboration between members of different community organizations and teams to deliver a service centered on service users” (Huby & Rees, 2005).

Health and Social Care: integrated care is defined as a mixed system comprising formal and informal care to provide social support and preventive medical services to the elderly (Daniilidou et al, 2008). The aim is at providing care without service gaps, fragmentation or lack of cooperation between home care services (provision of medical support) and home help services (provision of social services) (Hedman, Johansson, & Rosenqvist, 2007).

Providers: in a reductive way integrated care is considered as a formalized cooperation between independent health care providers towards demand orientation given the multiple needs of patients (Meijboom, Haan, & Verheyen, 2004).

Primary and Acute Care: the focus is to bridge acute and primary care, intending to reduce hospital stays and through intermediate care (Plochg et al, 2005). The concept of integrated care as a system stands out: a system in which health promotion, disease prevention, diagnosis, treatment, rehabilitation, and care are seen as one continuous link of actions to improve health gain (Delnoij, Klazinga, & Velden, 2003).

Health System: in a most comprehensive and holistic approach authors define integrated care as integration of activities between disciplines, professions, departments, and, in the case of a multiorganizational care path, organizations. It is about tackling professional and organizational quality simultaneously: optimizing effectiveness, efficiency, patient centeredness, and safety through integrating professional and organizational best practices (Berg, Schellekens, & Bergen, 2005).

When the focus is the entire system integrated care can be reached when relationships between organizations exhibit at least several of the following characteristics: joint goals; highly connected networks; mutual and diffuse sense of long-term obligation; high degree of mutual trust and respect; joint arrangements encompassing strategic and operational issues; shared or single management arrangements; joint commissioning at macro, meso, and micro-levels (Glendenning, 2003).

For the World Health Organization the concept of integrated health care is best viewed from the perspective of the individual: the aim being to develop service delivery mechanisms that encourage continuity of care for an individual across health conditions, across levels of care, and over a lifetime (WHO, 2007).

Still, there are several other ways of defining integrated care. Many permutations of integration are possible depending on whether it is the view of the users or the providers. Integrated care definitions “(...) should be seen as continuums, rather than in terms of “integrated” or “not integrated” (...) In reality, various arrangements can exist under any of these definitions” (WHO, 2008b, p.1).

Despite the huge set of integrated care definitions, there is evidence that integration models have a similar background, and a core set of integration strategies within the EU can be retrieved from the literature (Antunes & Moreira, 2011).

3.1.4 Integrated care strategies

There has been considerable experimentation with models of integrated care across Europe. Most applications of integrated care have been exploratory and are local initiatives that are not necessarily replicated at national level. Although, despite no set typology of models of integrated care exists, it is possible to identify some of the basic approaches that have been taken in attempts to implement integrated care (Lloyd & Wait, 2006; Kodner, 2009).

In our previous literature research we could retrieve some model principles and ways of working that form a core set of integration strategies within the EU (Antunes & Moreira, 2011). Those fit into three integration strategies displayed as following.

Changes in Organizational Structure:

- building up a network of health and social services
- decentralise social and health care to the regions
- create coordination tools
- care programs that map out patients individual steps through the net
- local strategic partnerships
- set up intermediated care facilities

Workforce reconfiguring:

- create case managers
- joint working
- restructuring and delegation of tasks

Changes in the financing system

- decentralization of financing of the services to the local level
- shared funding system
- change patients payment mechanisms

Changes in Organizational Structures

Pugh (1990) defines a typical organizational structure as a set of activities such as task allocation, coordination and supervision, which are directed towards the achievement of organizational aims.

According to Winter & Wickizer (1990) health care is not different in the sense that it is a mixed system involving different degrees of government intervention and reflecting different balances between the two central aims of society, equity and efficiency. An organizational structure determines how the roles, power and responsibilities are assigned, controlled, and coordinated, and how information flows between the different levels of management.

Structural changes commonly inflicted on health care services include the creation of new organizations, agencies and positions, and the merging or abolition of old ones (Coid & Davies, 2008).

In order to integrate health and social care, yet influenced by specific social and economic conditions as well as the health policies in place, some EU countries took similar initiatives to change their health system organizational structure. Next we will mention a few examples.

The increasing demand for home care in the Netherlands because of the high number of elderly people with age-related complex health problems, has led to a strong coordination of services between suppliers from the primary and secondary health care sectors. In order to promote such a coordinated care, Dutch health care providers built inter-organizational networks (Mur-Veeman & Raak, 1994).

To cope with the existing differences between the organizational capacity of social services departments and the primary care groups and to facilitate interorganisational co-ordination, the UK government created Primary Care Trusts (Glendenning, 2003). Those are freestanding, semi-autonomous organizations with managerial capacity that allow the integration of health and social services within a single organizational, managerial and employment framework (Department of Health, 2012; NHS Confederation, 2010).

Along with the UK and Netherlands health systems, Northern Ireland is one of the most dynamic concerning the number of interventions to integrate health and social care. Reed et al (2005) outlined the strategies that have been explored to promote integration across that health care system. In order to minimize the problems that older people and service providers encounter (cost-effectiveness, reduction in length of hospital stay, reduction in inappropriate hospitalization and decrease in admission to long-term care), the government promoted collaborative working and integration between the various parts of the care system, by modifying or changing structural arrangements between health and social services. In response to the difficulties that older people experience in their journey through care services, strategies that operate at the service user level have been developed, such as map out the older person's journey through service(s) were implemented.

Huby and Rees (2005) went further and explored the concept of integrated care pathways, as a tool to facilitate integration in Scottish community-based health care teams. They describe it as a way to structure thinking about the service in order to facilitate service development through improved communication and collaboration. A pathway can be used flexibly as a tool to conceptualize, evaluate, and improve a complex care process.

The same authors also considered that *partnerships* have become a key tenet of modern *health* and social care policy and it is presented as the means to improve relationships between services and sectors (Huby & Rees, 2005).

In the UK, primary care organizations have a statutory duty to work with other organizations and they are responsible for commissioning hospital services and for developing integrated primary and community health services. Substantial financial resources have become available to support new local health and social service collaborations. This removes some of the structural barriers to integration and provides the means for local strategic partnerships being developed (Rummery & Coleman, 2003).

In 2008, Mur-Veeman, Raak and Paulus, when addressing the interplay between integrated care policies and integrated care development in six European countries, observed that in Spain long term and social care was relatively underdeveloped. Nevertheless, they observed organizational changes supportive of integrated care: several experimental projects have been established and steps have been taken to create new institutions for state intervention and to decentralize social and health services to the regions (Mur-Veeman, Raak, & Paulus, 2008).

In Norway healthcare providers found that continuous and integrated healthcare services may be achieved in rural areas by decentralization of services, that is through working with local communities to rebuild local services around local health and social needs (Rygh & Hjortdahl, 2007).

For historical motives Spain has a high degree of influence from the Catholic Church in the area of social assistance, depending on the family as a source of personal welfare services and a low level of social expenditure. Consequently Spanish health system has a limited network of resources between health and social sectors, and acute and home care. To enhance the

accessibility to both sectors they introduce technological improvements in existing services and improve the protocols for overall evaluation and referral patients to health and social facilities (Garces, Rodenas, & Sanjose, 2006). Also to improve the continuity of care in Catalonia, Spanish researchers recommended the change in their health system organizational structure through the creation of shared coordination mechanisms and tools (Lorenzo & Navarrete, 2007).

When describing a range of interventions related to integrated care in 9 EU countries (Austria, Denmark, Finland, France, Germany, Greece, Italy, the Netherlands, and the UK), the PROCARE⁷ first report shows that in most countries intermediate care facilities were developed at the interface of hospital-community care. Acute and home care were complemented by intensive rehabilitation services (situated in hospitals or people's homes) to help older people regain their health and independence, recuperative facilities (short-term care in a nursing home or other special accommodation to ease the passage) and other forms of transition facilities (Leichsenring, 2004).

The UK National Service Framework for Older People, which describes the essential components of intermediate care services, points out a new range of acute and rehabilitation services to bridge the gap between acute hospital and primary and community care. The new range of intermediate care services are designated intermediate care settings and their main goal is to provide enhanced services from the National Health System (NHS) and councils to prevent unnecessary hospital admission and effective rehabilitation services to enable early discharge from hospital and to prevent premature or unnecessary admission to long-term residential care (Department of Health, 2001).

⁷ "Providing Integrated Health and Social Care for Older Persons (PROCARE)" is a project of the EU Fifth Framework Programme (Quality of Life and Management of Living Resources, Area "The Ageing Population and Disabilities") which aims to help in defining the new concept of an integrated health and social care for older persons in need of care by comparing and evaluating different modes of care delivery. Available for consultation at: <http://www.euro.centre.org/procare/>

Workforce Reconfiguring

In a review of two policy initiatives that were concerned with integrating health and social care services in the UK, Glendinning (2003) found that removing or at least relaxing structural, organizational and financial boundaries fosters progress towards integration. However she also argued that removal of the structural barriers to integration was not a sufficient condition for integration to take place. There were internal barriers, such as territorial wars over professional domains and identities, and different power relationships between newly integrated services and professionals.

These findings are also supported by Johnson et al (2003) in a study that explored the problems of interorganizational and interprofessional collaboration in community care in Great Britain. They found that conflicts between the values and interests of different agencies and professions can compromise attempts at structural integration. Rather than focus on structural integration alone, the authors highlighted the importance of joint working and multidisciplinary collaboration for successful integration of care (Johnson, Wistow, Schulz, & Hardy, 2003).

In Scotland a management-driven integrated care pathway for use in community care teams has been implemented in 2000. The aim was to strengthen multi-disciplinary collaboration through joint working and training within the teams (Huby & Rees, 2005).

Berg et al (2005) described a series of interrelated design principles that together depict how Dutch health care system could be organized. They considered that integration is fundamental but powerless without a thorough restructuring and delegation of tasks. Given shortages in qualified personnel, the authors strongly support the idea that redistribution of tasks is essential to manage the increasing demand for care. It can ensure both the quality of the work delivered by the different care professionals involved, and the coordination of their work tasks.

An exploratory study on how to promote continuity and integration in Norwegian healthcare services shows that it may be achieved through delegation and substitution of tasks,

interdisciplinary and team-based working, and flexibility of roles. The study emphasizes that those strategies will alleviate a scarcity of personnel and resources (Rygh & Hjortdahl, 2007).

Delnoij et al (2003) analyzed both WHO and World Bank (WB) perspectives and recommendations on how Eastern European Countries health systems could produce maximum health for all. Both perspectives converged on the need of a more integrated approach of health systems. An emphasis is given to the transition from relying heavily on hospital care to a primary care based system. Case managers are suggested as a tool to guide the chronically ill as they proceed through the health care and social service system.

In response to the difficulties that older people experience in their journey through care services, strategies that operate at the service user level have been developed. In Northern Ireland roles have been created where the professional works across organizational boundaries and supports the older person as they make the transition from one care setting to another. These roles include discharge managers, case managers where the emphasis is on the co-ordination of the care package (Reed, Cook, Childs, & McCormack, 2005).

Changes in the financing system

An international literature review on integrated resource mechanisms within health care and across health and social care identified various techniques that have been used to enable financial integration. The authors found several types of financing mechanism depending on the national context and organizational culture. However, the studies were inconclusive on whether financing and payment systems changes can be beneficial to integrated care. The biggest range of changes in financing mechanisms was found in the UK including: joint commissioning and shared funding, local and regional area agreements, user charges for social care, payment by results, pooled budget, and so on (Weatherly, Mason, & Goddard, 2010).

A comparative study between England and Sweden showed pooled budgets and joint political management across health and social care as tools to improve integrated care efficiency. Such strategy means joint financing across agencies: health care, social insurance and social services are allowed to move some of their budgets to a pooled budget increase; resources are

flexibly allocated regardless of organizational boundaries (Hultberg, Glendenning, Allebeck, & Lonnroth, 2005).

Till now we have been describing the context of integrated care in Europe and its components. Despite the recognized variations and multiplicity of interventions between countries on what concerns integrated care implementation, most initiatives demonstrate a holistic strategy within their health systems. The outlined strategies complement each other and are usually developed simultaneously across the system. Apart from operating at organizational, financial, professional or at user level, interventions cannot be separated in order to achieve an effective integration of care (Berg et al, 2005; Delnoij et al, 2003; Leichsenring, 2004; Mur-Veeman et al, 2008; Reed et al, 2005; Santana et al, 2007).

As we have been mentioning, the literature suggests that integrated care programs have widely varying definitions and components. To compare and better understand those, the interventions previously identified should be better discussed and described.

3.2 Systematic literature review on skills mix

Data contained in this section resulted from the methodological approach described in section 2.4. We present an update on the knowledge concerning the adoption of skills mix as a health workforce management tool in the international context.

3.2.1 Health workforce planning

Health workforce planning is one of the most important challenges facing politicians and policy makers in Europe over the next decades. In a period of increasing financial challenge there will be multiple demographic and technological developments that will need to be accounted for in helping to establish an affordable and sustainable health system that fully meets the needs of a diverse population (Hall, 1998).

Health workforce planning differs considerably from any other form of manpower planning. According to Hall and Mejia (1978), workforce planning is “the process of estimating the number of persons and the kind of knowledge, skills and attitudes they need to achieve predetermined health targets and ultimately health status objectives” (p13).

The same authors defend that it is fundamental to ensure the availability of good quality healthcare, as it can directly influence the health status of the population. Moreover, health workforce is one of the main sources of expenditure across countries having impact on national planning and budgeting and consequently on the sustainability of health care systems (Hall and Mejia, 1978).

Planning the human resources for health is a complex process. It needs to consider both the technical aspects related to estimating the number, skills and distribution of health personnel for meeting population health needs, and the political implications, values and choices that health policy and decision-makers need to make within given resources (Hall and Mejia, 1978).

Roberfroid, Leonard, & Stordeur (2009) presented a typology of existing approaches to estimate requirements for human resources for health:

- Supply Projection Approach - defines the necessary inflow to maintain or to reach in the future a predefined level of service offer;
- Demand-Based Approach- estimates the quantity of health care services used by the population in the future to project workforce requirements;
- Needs-Based Approach- involves defining and predicting health care deficits so that they can be addressed by an adequate workforce

A wide range of indicators are taken into account into supply-projection, demand-based and needs-based models, which may differ between countries. Some supply models (Danish and Swedish models) take migration patterns into account, or more specialised factors such as medicinal advances (Malta) or skills mix (Ireland, UK). Demand-based models tend to take a limited amount of factors into account, such as projected demographic trends and current service utilisation, whilst needs-based models take more factors into account, such as

structural economic changes (Finland), specific physicians requirements (Lithuania) or epidemiological developments (Netherlands) (European Commission, 2012b).

Those approaches were again explored in 2012. The European Commission Centre for Workforce Intelligence described them as management tools, gave each one a more in depth description and explored its advantages and limitations as displayed in the next table. (Table 5)

Table 5: Approaches to estimate requirements for human resources for health

Model or Tools	Description	Assumptions	Advantages	Limitations
Workforce-to-population	Explores likely changes in population needs for health services, based on changes in patterns of disease, disabilities, injuries and the number and kind of services required	Often based on current best region ratio or a reference country, with a similar but presumably more developed health sector	Quick, easy to apply and to understand	Provides no insight into personnel utilization Does not allow to explore interactions between numbers, mix, distribution, productivity and outcome Base year mal-distribution will likely continue in target year
Health needs method	Estimates future requirements based on estimated health deficits of the population Projects age- and gender-specific “service needs” based on service norms and morbidity trends Converts projected service needs to persons requirements using productivity norms and professional judgment	All health care needs can and should be met Cost-effective methods to address the needs can be identified and implemented Resources are used in accordance with needs	Has the potential of addressing the health needs of the population using a mix of HRH Is independent of the current health service utilization Is logical, consistent with professional ethics, easy to understand Is useful for some programs such as prenatal and child care Is useful for advocacy	Ignores the question of efficiency in allocation of resources among other sectors Requires extensive data If technology changes, it requires norms update Is likely to project unattainable service and staff targets
Service demand method	It draws on observed health services utilisation rates for different population needs. It applies these rates to the future population profile to determine the scope and nature of expected demands for services and	Current level, mix, distribution of health services are appropriate Age- and sex-specific requirements remain constant in	Economically feasible targets due to no or little change in population-specific utilization rates (assumed)	Requires extensive data Overlooks the consequences of ‘errors’ arising from the assumptions proving to be invalid

	converts this into required health personnel	the future Size and demographic profile of the population changes in ways predictable by observed trends in age- and sex-specific rates of mortality, fertility and migration		Produces a “status quo” projection, since future population segments are assumed to have similar utilization rates as base year segments
Service targets method	Sets targets for the production and delivery of specific outcome oriented health services Converts these targets into HRH requirements by means of staffing and productivity standards	It assumes that the standards of each service covered are practicable and can be achieved within the timescale of the projection	Relatively easy and understandable Can assess interactions between variables	Potentially unrealistic assumptions

Source: (European Commission, 2012b, p.123,124)

According to the European Commission Centre for Workforce Intelligence, in very few European countries can workforce planning be said to be institutionalised across the health system and effectively used to influence decision making and to allocate resources in the longer term (European Commission, 2012b).

The following tables show which countries engage in model-based workforce planning (Table 6) and how the remaining plan their health workforce. (Table 7)

Table 6: Countries that engage in model-based workforce planning

Country	Supply-projection	Demand-based	Needs-based
Belgium	x	x	
Germany	x	x	
Denmark	x		
Estonia	x		
Spain	x		
Finland	x		x
Ireland	x	x	
Lithuania	x		x
Malta	x		
Netherlands	x		x
Sweden	x		
United Kingdom	x		x

Source: (European Commission, 2012b, p. 130,131)

Table 7: Countries that do not engage in model-based workforce planning

Country	Model
Austria	No specific model used. Planning based on studies on health workforce
Bulgary	Bulgaria, in theory, uses a system of Regional Health Maps, whereby health establishments, doctors and specialists are planned and distributed according to population needs. However, on a practical level, this system is not functioning, which means that there is currently no workforce planning in Bulgaria
Cyprus	Cyprus does not engage in any central health workforce planning
Czech Republic	The Czech Republic does not use a specific workforce planning model. Several operational programs, which largely entail subsidising the training of certain professions, are in place
/Greece	No healthcare workforce planning exists in Greece. Whilst a health reform plan formulated between 2000 and 2002 intended to introduce a more rigorous planning structure into the Greek health system, the changes were never implemented. Another attempt at using health workforce planning to allocate resources in the short term has been made as part of the Troika's (IMF, ECB and the EU) efforts to reform Greece. This is on-going and currently being monitored.
France	France does not use a specific workforce planning model. It is sometimes attempted to correct geographical disparities through adjust the numerus clausus in certain areas.
Hungary	Hungary does not currently have a workforce planning model, but is developing a Human Resources for Health Monitoring System, which will project the future health workforce according to supply and demand. The current system mainly consists of uncoordinated planning on a local level, with incentives usually encompassing individual career plans.
Italy	Italy has no national health workforce planning. Many individual regions do short- and medium-term supply-side forecasting of healthcare professionals. The central government has no control over which indicators and models are used by individual regions
Luxemburg	Luxembourg does not engage in any central health workforce planning.
Latvia	There is no national-level institution involved in health workforce planning. Whilst the Ministry of Health takes a number of factors into account when considering its healthcare human resources budget, such as medical practitioners, demographics and patient flows, it does not systematically feed these into a model. More detailed planning is conducted at a local level, e.g. by hospitals. Deep government budget cuts from 2009 onwards have meant that the "Human Resources Development in Health Care" plan previously approved still needs to be updated according to the current budgetary situation.
Poland	Poland does not engage in any central health workforce planning
Portugal	Portugal does not use a central health workforce planning model. Some geographical disparities are addressed through measures such as a numerus clausus
Romania	Romania does not engage in any central health workforce planning
Slovenia	Slovenia does not use a central health workforce planning model. It looks at a limited number of supply-side elements when deciding on target levels of number of health workforce staff. It is envisaged that a more systematic approach is taken in future, incorporating more demand aspects.
Slovakia	Slovakia does not engage in any central health workforce planning.

Source: (European Commission, 2012b, p.130,131)

Not only in Europe, but around the world many health systems are undergoing through a period of change as organizations restructure the delivery of patient care in an effort to provide the most efficient services to patients. Also driven by productivity improvement, cost containment and personal shortages, the interest in workforce planning and reengineering has been growing in the last years. In the next chapter we analyse how the changes in the demand for health care in Europe are accentuating the need for a flexible and responsive health workforce.

3.2.2 Skills mix in healthcare

The healthcare sector constitutes one of the most significant sectors in the EU economy with an important employment potential due to an ageing population and increasing demand for healthcare. In addition, recruitment in the health sector faces competition from other countries, following the process of integration in Europe and the removal of many barriers to professional mobility. Also the new care patterns to cope with chronic conditions and needs of the elderly, the rise in new technologies, the integration of health and social care services, and the current budget constraints will require new skills and competences to meet such demands (Hall, 1998; WHO, 2005).

Furthermore the literature recognizes that it is important for providers to learn from experiences of those who have already implemented effectively workforce changes by designing and implementing revised roles, training, and working practices such as flexible working. There is general consensus that to provide effective health care for chronic conditions, the skills of health professionals must be expanded to meet these new complexities (CFWI, 2011; Greuning, Batenburg, & Velden, 2012).

The degree to which European countries currently face health workforce supply challenges varies considerably. Estimating whether human resources for health will be sufficient to meet the health needs of the population requires careful adjustment modeling which is currently being undertaken in a limited number of countries. Countries such as Bulgaria, the Netherlands and the UK already witness shortages whilst countries such as Denmark, France or Germany currently have no shortage of health workforce overall, but have a problem with geographic misdistribution as they lack appropriate supply particularly in rural areas. Other

countries such as Spain have to cope with professional misdistribution and are in need of additional staff in certain specialties whilst reporting surpluses in others. On what concerns Portugal, it is facing some of the previous problems (such as professional shortage, inadequate distribution of staff between sectors, and geographical misdistribution) compounded by the financial difficulties that prevents the recruitment of new staff (European Commission, 2012c; European Observatory on Health Systems and Policies, 2006; Santana et al, 2007).

Recognizing the European dimension of such challenges, EU Members States agreed on developing the action plan for the EU health workforce to assist governments in planning and forecasting the development of integrated health workforce. The action plan sets out 3 fundamental actions to support cooperation to ensure a sustainable health workforce within the EU (European Commission, 2012c):

- Forecasting workforce needs and improving workforce planning methodologies;
- Effective recruitment and retention for health professionals by mapping innovative strategies and working with the European social partners in the hospital sector.
- Anticipating future skills needs in the health professions, through European networks in the fields of education, training and health

“The development of new integrated care delivery models - with a shift from care in hospitals to the delivery of primary care closer to home - to cope with elderly patients with multiple chronic conditions, such as heart disease and diabetes, requires different skill mixes and, new ways of working within a wider interdisciplinary team.” (European Commission, 2012c, p.9)

The role of health workforce planning will be an important one and the opportunity provided by a joint action focused on developing common strategies may provide a valuable support for the future. However, the European joint action plan is further from being the first initiative to address effectively health workforce planning issues. Since 1996 the WHO have been developing studies on how to determine the adequate personnel mix in healthcare (Buchan, Ball, & O'May, 1996). In the beginning of the Millennium a delivery paper was released to provide practical guidelines for managers and health professionals looking to skill mix as a potential solution to health service delivery (Buchan & O'May, 2000).

As these thinking on how to develop an effective health workforce arose, new concepts were also brought to the conversation ('workforce skills', 'personnel mix', 'skills mix') now posing the discussion on their meaning and on the need of a common understanding of the concept.

The World Health Report 2006 noted that preparing the health workforce to work towards attainment of its health objectives represents one of the most important challenges and opportunities for health systems. The report also stated that governments should go beyond the traditional notion of skill mix and explore what tasks the different levels of health workers are trained to do and are capable of performing. Managers' interest in identifying the most effective mix of staff achievable within available resources has resulted in an increasing research on the impact of the different approaches to staffing on patient and services outcomes (WHO, 2006).

There is no common starting point for examining skill mix in different countries, sectors and health systems. However, maintaining a reasonable balance in terms of numbers, diversity and competencies of the health workforce requires a thorough understanding of the driving forces and challenges that shape health systems as well as labour markets (Buchan & Poz, 2002; WHO, 2006).

3.2.2.1 Driving Forces

According to Dubois and Singh (2009) skills mix is a policy tool for developing the best combination of skills across professions and organizations. They consider that managing human resources in health care involves organizing groups of workers with different professional backgrounds, skills, grades, competencies and expertise in order to achieve optimal patient care.

There are several common starting points for implementing skill mix in different countries, sectors and health systems. Optimizing skill mix is highlighted as a policy solution for a range of health system related problems and authors are unanimous when identifying the driving forces for skill mix initiatives (Bourgeault, 2008; Buchan, 1996, 2000, 2002; Dubois, 2009; Fulton, 2011):

- respond to shortages of staff;
- cost containment;
- health workers distributional imbalances;
- improve quality of care and patient satisfaction;
- facilitate the interface between organizations, settings and workers.

Health workers shortages and distributional imbalances

Most European countries claim to face shortages in health human resources and some of them often face shortages in relation to geographical locations or skills. While some of these shortages are felt more acutely in certain countries and by certain professional groups, almost all countries suffer from a maldistribution of human resources, which is characterized by urban concentration and rural deficit. Most countries also experience problems in matching the skills of professionals available to local health needs. Furthermore, these problems are increased by the mobility of health care workers within the EU (OECD, 2012; WHO, 2009).

In the UK staff shortages was one of the leading drivers of skills mix initiatives. In 2002 it was one of the European countries that had fewer physicians per population. The UK NHS then outlined a plan offering new model career to staff and proposing a strategy on how to manage the existent human resources by restructuring the workforce (Department of Health, 2012).

A study on how to promote continuity of care in rural Norway areas showed that small local communities have more difficulty in recruiting qualified personnel capable of satisfying their health and social needs. Researchers then proposed a flexible adjustment on health workers roles in order to alleviate the scarcity of personnel (Rygh & Hjortdahl, 2007).

In Spain, the major human resources concern lies on the number of nurses. This country has one of the lowest ratios of nurses per population unit in the EU. Also, the geographical distribution of nurses is more irregular than that of physicians. The difference between the regions with the lowest and highest ratios of nurses to population unit is more than double (European Observatory on Health Systems and Policies, 2006b).

In Germany, despite the number of doctors per capita has increased in the last past decades there's an imbalance in their distribution between urban and rural areas. While the western part of the country still has a large number of doctors across settings, a shortage in the eastern part of Germany is a concern for policy-makers (Busse & Riesberg, 2004).

In Portugal all health professional groups significantly increased in the past decades. Growth has been continuous for physicians and nurses in general. The density of physicians per 1000 inhabitants is above the European average. For nurses, Portugal is at the lowest European limit. Maldistribution between regions is also a challenge for policy-makers (Barros, Machado, & Simões, 2011).

Cost-containment

In many contexts, skills mix is defined as a cost-containment and efficiency tool, which often results in the delegation of tasks to less skilled and, more importantly, lower paid workers. The substitution of cheaper for more expensive workers – for example, substituting care assistants for nurses – has also increased in many countries (Buchan & Poz, 2002). However cost-effectiveness is not generally examined when pursuing such measures. The savings from substituting low-cost for high-cost personnel are not assured, as they depend on the former not consuming more resources in delivering the same volume and quality of care as the latter (Sibbald & McBride, 2004).

Also, changing the skill mix initially increases costs, because of the need to retrain staff and put away older ways of working. Only in the longer term, once new roles are set and training programs adopted, does the potential for cost savings exist. Therefore authors defend that cost savings should not be the main driver for skill-mix initiatives, particularly not in the short term (Buchan & Calman, 2005; Richardson et al, 1998).

Quality improvement and patient satisfaction

Quality in health care is complex, multi-faceted and multidimensional. Attempts to assess, monitor, evaluate and improve quality have evolved over a number of years. In health care the pursuit of quality has been driven by concerns over its costs, as well as a move towards

continuous quality improvement. The emphasis on continuous quality improvement has involved a paradigm shift in thinking about quality, to one which emphasizes the central role of patients, the processes of care, and the role of leadership and organization in the creation of a learning culture of quality (Harvey, 1993).

Quality has been defined along a number of different dimensions, for example, access, equity, effectiveness, acceptability, appropriateness and efficiency (Maxwell, 1984). In 1990 Donabedian has argued that definitions of quality used in much of the empirical health care literature remain narrowly focused on the technical aspects of care (Donabedian, 1990). Later, Larsson and Larsson (1999) and O'Connell et al. (1999) assert that patients' perceptions should also be viewed as a legitimate aspect of quality.

In recent years, there has also been a global interest in the impact that health professional shortages may have on the quality of care delivered to patients, specially on what concerns nursing staff (Aiken et al 2002, Aiken et al, 2008).

There is a growing body of literature to suggest that global nurse shortages may have a direct impact on the quality of patient care. Research by Blegen, Googe and Reed (1998) found that changes in skill mix do affect patient outcomes. Exploring the relationship between the total hours of nursing care, registered nurses skills mix and a range of adverse outcomes, they found that the higher the proportion of registered nurses, the lower the incidence of adverse events on inpatient units.

Robb, Maxwell and Elcock (2011) found evidence that hospitals with the right nurses workforce mix, leadership and organizational culture not only improve patient and public satisfaction but also save money by reducing adverse events, allowing people to maintain independent living.

The literature mostly analyses quality of care related to nurse skills mix. Buchan (1999) believes that failure to collect information on staff groups other than nurses may led to difficulties in determining whether attributes should be shared across other professionals groups.

3.2.2.2 Dimensions

While the previous drivers are valid premises that may lead to a review of the personnel mix, not all of them can be solved through skill mix changes. Each of these issues is affected by a wide range of contextual factors, and the mix of personnel and skill is just one of them (Buchan & O'May, 2000).

Buchan et al (2001) was one of the first authors to discuss what is meant by skill mix and provide a typology of the different approaches to assessing skill mix. However, skill mix initiatives were initially categorized by Sibbald (2004). In a systematic literature which included 24 studies focused on the skill mix of healthcare workforce the author identified the dimensions through which skill mix changes can be brought about (Table 8). Later, in 2008, the European Observatory on Health Systems and Policies issues a skill mix policy brief subscribing the same dimensions and definitions (Bourgeault et al, 2008).

From what we could investigate, the processes described in studies concerning skill mix implementation seem to fit in one or more of these dimensions. For instance, some authors used “task shifting” to describe both substitution and delegation initiatives. Fulton et al (2011) defined “task shifting” as delegating tasks to existing or new cadres and Dovlo (2004) defined it as shifting tasks from higher to lower skilled workers. Also Dubois and Singh (2009) in a wider review which included 250 articles identified and recommended different skill mix approaches that healthcare organizations should adopt to optimize its workforce, which are also summarized in Table 8.

Despite the driving reasons to skill mix implementation being similar there's no universal consensus about the nomenclature used to classify skill mix dimensions.

Table 8 - Categorization of skills mix initiatives

Sibbald (2004), Bourgeault et al, 2008	Dubois & Singh (2009)
<p><i>Changing Roles</i></p> <p><u>Enhancement</u>: increasing the depth of a job by extending the role of a particular group of workers</p> <p><u>Substitution</u>: Expanding the breadth of a job in particular by exchanging one type of worker for another</p> <p><u>Delegation</u>: Moving a task up or down a traditional unidisciplinary ladder</p> <p><u>Innovation</u>: Creating new jobs by introducing a new type of worker</p> <p><i>Changing the interface between services</i></p> <p><u>Transfer</u>: Moving the provision of a service from one health care setting to another</p> <p><u>Relocation</u>: Shifting the local where a service is provided from one health care setting to another, without changing the people who provide it (running a hospital in a primary care facility)</p> <p><u>Liaison</u>: Using specialists in one health care sector to educate and support staff working in another sector</p>	<p><u>Role Delegation</u>: transferring certain responsibilities or tasks from one grade to another by breaking down traditional job demarcations</p> <p><u>Role Enhancement</u>: expanding a group of workers skills so they can assume a wider and higher range of responsibilities through innovative roles</p> <p><u>Role Enlargement</u>: staff members should be able to extend their activities and take roles and functions at parallel or lower levels</p> <p><u>Skills Flexibility</u>: using multi-skilled workers that can switch from one role to another while employing various skills as required</p> <p><u>Role Substitution</u>: to work across and beyond traditional divides in order to achieve more efficient workforce deployment</p>

3.2.3 Skills mix strength of evidence

The information contained in this chapter derives from a previous systematic literature research which resulted in a paper published in the International Journal of Healthcare Management (Appendix C).

From what we could determine, research involving evaluations of skills mix alterations dates to 1998. Knowing that the literature considers the reduction of costs as one of the main drivers to skill mix, it is not surprising that the first studies intended to found the evidence on skill mix cost-effectiveness.

Richardson et al (1998) were the first to perform a literature review focused on skill mix effectiveness and cost effectiveness to assess the potential for substituting or delegating of health professionals tasks. The authors found that to date existing studies only addressed doctors and nurses' delegation of tasks, and also that the few existent studies on those skills

changes outcomes and costs were not sufficient to demonstrate the quality of the services provided. They considered that the measurement of patient outcomes and costs is essential before decision making on health professionals skill mix, and also recommend further research on this issue not only on what concerns doctors and nurses roles, but other non-physician personnel.

An year later, the same author in a systematic review focused on cost implications of skill mix changes, found once more that economic evaluation has been being under-utilized in studies and that there's a little evidence that substitution between health professionals can be cost-effective (Richardson, 1999). Because most of the studies founded in his research only addressed the costs of health professionals substitution, the author identified some factors that could influence the cost-effectiveness of skill mix and should be take into account when implementing it, such as:

- the relative cost of employing health professionals;
- the relative effectiveness of health professionals;
- the evaluation of released time;
- demand side and supply side factors.

He also argued that if economic studies could demonstrate that skill mix can reduces costs and improve or maintain patient outcomes, it means that it should be implemented (Richardson, 1999).

Another goal for skills mix initiatives is to respond to workforce shortages. Because most studies were undertaken in different contexts and settings authors consider that that's not possible to generalize conclusions on the most effective way of correct health workers imbalances (Buchan, 1999; Hall, 1998).

Hall (1998) in a systematic literature review focused on staff mix models studies argued that the majority of examples in the literature of care delivery models which incorporate changes in staff mix, use small samples, are unrepresentative and based on descriptive data only. Most studies are undertaken in specific labor contexts and involved only doctors and nurses staff mix.

Also Buchan (1999) when studying the main skill mix approaches, has highlighted that most experiments have methodological weaknesses that prevent the results of the individual studies from being considered together to produce general conclusions about the effectiveness of different health workers mixes. Because personnel mix exercises were based on the identification of care needs of a specific patient population and the match of these with the skills of the available staff, Buchan considered that results of each study only remain true for the time and place from which they were derived. The author also considered there was a lack of appropriate evaluations of quality, outcome and costs related to skill mix implementation. In order to achieve more robust guidelines on how to determine skill mix, the author recommended the standardization of research and evaluation methodologies, to improve the network of study results.

In a further research, examining skill mix in healthcare, Buchan and Poz (2002) identified significant limitations to the current evidence on skill mix in the health workforce. The authors considered that skill mix determinants, such as skill shortages, cost containment and the need for quality improvement, were well supported by the literature. However there was a dearth of studies supporting the evidence of skill mix success. They argued that many published studies were merely descriptive accounts on different mixes of health professionals, which add little in terms of implementation methods or interpretative results. Moreover, they identified methodological weaknesses on those studies that moved beyond description. Because most of the rigorous studies the authors found were undertaken in the USA, they considered that those findings may not be relevant to other health systems. Like Hall (1998) another limitation pointed by the authors was the lack of studies on the effectiveness of skill mix in other health workers rather than nurses or doctors.

Buchan and Poz (2002) considered that there was not possible to prescribe in detail a universal ideal mix of health workers. In order to adjust skill mix they recommended policy-makers to analyze the context, identify appropriate solutions and manage sustained changes within the system.

On what concerns quality improvement there are few studies on patient and professional's perceptions of how skill mix affects the quality of care (Branson et al, 2003; Currie et al, 2005).

Branson et al (2003) described the aspects of care that influence patient satisfaction with skill mix, such as: healthcare access; professionals' skills and knowledge; professionals' communication skills; location of services; and availability. When exploring those factors they argued little research on patient satisfaction has been undertaken and that the available research was scattered across the specialist literature of different professional groups and tended to focus on a single aspect of skill mix, rather than the complexity and diversification of skill mix strategies. The authors recommended further research to consider patient views on a much wider range of services implementing skill mix.

In order to achieve a wider perspective on how skill mix may affect the quality of care, Currie et al (2005) undertook a systematic literature review of 85 articles finding that skill mix implementation is "highly contentious" which enhances the need to evidence its impact on quality of care. Although they have found some research on health professional's perception of skill-mix impact on quality of care, they could not find any systematic, rigorous research exploring patients' perceptions. The authors argued that traditional quality assessment tools have fallen out of use as they couldn't engage both patients and professionals point of view. They considered that the professional voice alone is not enough to show whether skill mix can have impact on the quality of care, recommending further studies on patients' perceptions.

Apart from no evidence on the wider impact of skills mix on health systems being found, Sibbald et al (2004) argued that there's also no evidence on its constraints or on the variables that determine its success.

When studying skills mix strength of evidence the authors found a dearth of research for role changes involving workers other than doctors or nurses. They also found that cost-effectiveness was generally not evaluated nor the wider impact of skills mix on health care systems. Despite the lack of evidence on skill mix constraints the authors argued that the following factors may influence the success or failure of skill mix implementation Sibbald et al (2004):

- appropriate staff education and training;
- removal of unhelpful boundaries demarcations between staff or services sectors
- appropriate pay and reward systems;
- strategic planning and human resource management

Dubois and Singh (2009) argued that there's no evidence of previous evaluation of the context in which each skill mix initiative should be implemented. They performed a study focused on the main approaches to healthcare personnel deployment and skills management strategies, finding that the healthcare staff-mix focus was both restrictive and static, and that it failed to account for staff member skills and their effective utilization. Despite skills mix initiatives have a similar background, their implementation requires a structured analysis of the conditions that may influence it.

Authors also suggest that develop new roles and search for more flexibility in using staff members, requires an assessment of the environmental conditions that influence health care workers practices (institutional environment, the system of professional regulation, organizational incentives, and also the workers educational preparation) Dubois and Singh (2009).

More recently Fulton et al (2011) explored the evidence of one skills mix dimension - task shifting – arguing that task shifting is an important policy option to help alleviate health workforce shortages and skill mix imbalances in low income countries. Despite considered task shifting as promising, the authors argued some constraints to its implementation, such as care quality and safety concerns, professional and institutional resistance, and the need to sustain professionals' motivation and performance. In the reviewed literature they couldn't identify any evidence on patient outcomes, quality of care, and costs. Similarly to the previous authors they also recommended that futures studies should examine the development and implementation of health workforce skills mix in country-specific labour markets.

Literature shows that despite the widely acknowledged interest on skills mix initiatives there is a lack of evidence on skills mix implications, constraints, outcomes, and quality impact that would allow policy makers to take sustained and evidence-based decisions. Being able to recognize differences between countries and contexts will also allow a better comprehension of the effectiveness of the initiatives and ways to implement them.

3.3 Semi-structured interviews

The analysis of the interview data (Appendix G) culminated in the identification of a range of four broad themes which captured the ways that participants describe the issues involving integrated care in Portugal:

- Integrated Care Focus
- Potential benefits of Integrated care interventions
- Difficulties in integrated care implementation
- Strategies to overcome difficulties

Therefore, based on the methodology previously described in section 2.5 we categorize perceptions on integrated care strategic approaches within themes and sub-themes as described below.

3.3.1 Integrated care focus

Participants assigned three sectorial focus to integrated care programs:

- Health and social care
- Primary and acute care
- Intermediate care

On what concerns health and social care, participants stated that dependent people must be provided with both social support and medical services. They described social care as a group of services (e.g.: counseling, guidance, economic assistance) intended to improve the social conditions of disadvantaged, inseparable from prevention, treatment, and management of disease (medical support).

The bridge between Primary and Acute Care was also described as an integrated care approach. Participants considered it as a way to reduce hospital stays by strengthen community services. Nevertheless, they also considered that Intermediate Care is a way to bridge the existing gap between hospital and community care, which makes somehow difficult to distinguish the focus given to integrated care strategies (Primary and Acute Care or Intermediate Care?) Still we have chosen to assign Intermediate Care as one of the focus of

integrated care programs, because participants referred to it as an already existing part of health system (Table 9).

Table 9: Examples of themes related statements: integrated care focus

Integrated Care Focus Sub-Themes	Statements
Health and social care	P2: The goal is to integrate health and social care to support dependent patient. P1: Dependent people need a mix of health and social care services
Primary and acute care	P1: (...) a medical services network to bridge primary and acute care.
Intermediate care	P4: Our system had hospitals to provide acute care, primary care facilities and teams to provide community care... but a third pillar was missing –intermediate care units. P3: Intermediate specialized units to provide continuous care after hospital discharge

3.3.2 Potential benefits of integrated care interventions

Participants identified four main benefits of integrated care interventions:

- Continuity of care
- Easy access to care
- Effective use of financial resources
- Adjustment of care to patients needs

Participants considered that the previous fragmented system is now changing to a more coherent and coordinated model of care. Patients are no more discharged from hospital without having a planned pathway through intermediate care units and community services.

Also accessibility disparities due to geographical barriers that prevented patients' access to adequate care are being addressed by the creation of community-based care facilities and the reorganization of home care support teams. Furthermore, participants believe that proximity to patient/family home potentially increases their involvement in the care process.

Due to economic pressures informants expectations are high on what concerns costs reduction. Despite the initial investment to built and/or relocate units and teams, in the long-

run it is considered a cost-effective strategy. Participants stated that intermediate care units are not only more adjusted to patients' needs but are also more affordable.

At last participants considered that integrated care programs are more adjusted to patients needs. Most patients present not only medical disorders but also have functional and social needs that are better addressed by integrating both forms of health and social services provision.

Table 10: Themes related statements: potential benefits of integrated care programs

Potential Benefits Sub-Themes	Statements
Continuity of care	P1: There's a continuum on patients care. In the past they were hospital discharged and there was a lack of community services support .
Easy access to care (geographic proximity to patient home)	P3: It prevents patients living in rural areas to move far away from their homes to obtain specialized care. P4: Most families live in residential areas far from their relatives. The possibility of choosing a closest unit potentially increases their involvement in the care process.
Effective use of financial resources	P2: Acute care requires more expensive resources. Intermediate units are more adjusted to patients' needs and are more affordable.
Adjustment of care to patient needs	P2: Most of our patients suffer from multiple disorders that cannot only be addressed with hospital care. Most of them also require social support.

3.3.3 Difficulties in the implementation of integrated care

The difficulties identified in integrated care implementation were grouped into five main themes:

- Referral Process
- Communication
- Human Resources
- Structural Conditions
- Financing

Participants believe factors that most difficult the implementation of integrated care programs are related with patients' referral process. They reported that admission criteria are not equally addressed between regions. Sometimes both hospital and community teams question and disagree with referral and admission criteria. Informants described a kind of detachment by the hospitals when referring patients to community. They stated that hospitals do not seem to be concerned with the criteria; their main goal is to discharge patients as soon as possible apart from the unit where they should be placed.

Both excess of bureaucracy and number of people involved when referring a patient stood out as negative factors making the process more time consuming and confuse for both patients and professionals.

Informants also considered that the dearth of family support and the insufficiency of social answers enhance the already existent constraints in complying with referral criteria, as patients are placed in units inappropriate to their needs. Table 11 shows some of the statements related to the referral process

Table 11: Themes and sub-themes related statements. Difficulties in integrated care implementation: referral process

<p>Referral Process Sub-Theme</p>	<ul style="list-style-type: none"> • Admission criteria disparities • Excessive bureaucracy • Multiplicity of players involved • Non-compliance with referral criteria • Insufficient social support • Inadequacy/ dearth of family support
<p>Statements</p>	
<p>P1: National directives operation varies between regions. Admission criteria are often questioned. P1: Hospital goal is to discharge patients as soon as possible, but sometimes it is difficult because there are no vacancies and they cannot be placed in the appropriate unit. Some units have long waiting lists (such as long term care units) and patients must be placed in another one what generates some constraints and a breaking in referral criteria. P2: Sometimes the referral process is incomplete because there are not adequate social answers. Also many patients don't have family support. P3: Family is essential in the care process and many patients don't have that kind of support. That's a challenge when referring to homecare teams. P4: I believe the net is very bureaucratic and many people are involved in the referral process. It makes the process more time consuming, and confuse for both patients and professionals.</p>	

All participants agreed that communication is one of the most important aspects to the success of integrated care programs. However, they argued that communication between hospital and community setting is a major problem as information sometimes misses causing a gap in continuity of care. Language is not clear between providers, staff and patients as terms are not standardized. The example of the International Classification for Nursing Practice (ICNP)⁸ was given by one of the participants, who stated that the formal terminology provided for nursing practice is not understood by other health professionals.

Information systems and communication technology are considered to be crucial tools to manage patients' data within the health system as they allow health professionals to share information at appropriate points of care process. Still, participants describe the existing communication technology as ineffective because software is not compatible and does not allow share information between applications. Table 12 shows some of the statements related with communication

Table 12: Themes and sub-themes related statements. Difficulties integrated care implementation: communication

Communication Sub-Theme	<ul style="list-style-type: none"> • Lack of communication between community and acute care • Language is not standardized (lack of understanding) • Information technology systems incompatibility
Statements	
<p>P1: Communication between hospital and community teams is complicated. Sometimes information about patients is not transmitted between units and professionals'. There's information lacking. P2: There's a gap in continuity of care as information is missing. P3: (...) one of the biggest challenges is the communication between providers, staff and patients. Some professionals don't use the same terminology and patients don't understand some medical terms. P5: There is not a common tool on what concerns information technology. It happens very often we couldn't retrieve data from an application as it is not compatible with the software.</p>	

⁸ The International Classification for Nursing Practice (ICNP®) provides a formal terminology for nursing practice and a framework into which existing vocabularies and classifications can be cross-mapped to enable comparison of nursing data. More information available at: <http://www.icn.ch/pillarsprograms/international-classification-for-nursing-practice-icnpr/>

Health workers were considered a central piece for the performance and success of integrated care network. Nevertheless, many factors difficulting the implementation of integrated care programs fall into the human resources theme.

Staff shortage is a major problem. Participants stated that there are not enough professionals to cope with patients needs. They also claimed that due to political and financial constraints part-time contract arrangements worsen professionals' shortage and influence quality of care. They argued that professionals are working beyond their professional boundaries without regulation and skills are not being used effectively. Professionals' lack of knowledge on integrated care also became an issue on how and which roles and tasks they should performed.

Opposition to change was also felt and described by one of the participants. Table 13 shows some of the statements related with human resources.

Table 13: Themes and sub-themes related statements. Difficulties in integrated care implementation: human resources

<p>Human Resources Sub-Theme</p>	<ul style="list-style-type: none"> • Lack of knowledge on integrate care models • Coordination teams unclear roles and duties • Contract arrangements (most in part-time) • Staff shortages • Ineffective use of staff skills • Opposition to change
<p>Statements</p>	
<p>P1: Intermediate care units don't understand the role of local and regional coordination teams. They still believe in self-management. P1: Staff shortage is a major problem. Teams are vulnerable and human resources are also not adequate to patients and community needs. P4: Most staff working in intermediate care units came from the hospital setting. Professionals are not aware of the different type of care they must now provide. P4: Integrated care is still an unknown concept for many professionals. P2: For politic and economic reasons most staff have a part-time contract arrangement which prevents their full dedication and specialization. P5: I felt some opposition and discredit related to the network implementation from colleagues. P5: We don't have enough professionals to provide adequate quality care, but still we are not using their skills effectively. We should reinvent our skills.</p>	

Inadequacies related to the structure of integrated care units were also found to be a constraint to its functioning. Participants argued that in some regions the framework of elements (such as beds, clinical devices, medical supplies, etc...) that give stability and functionality to services have failed. For instance, some home care teams are unable to visit all patients requiring assistance because there aren't enough vehicles to transport them within their region.

Also the lack of beds led to the units overload and alternate beds occupancy. Table 14 shows some of statements related with the structural conditions.

Table 14: Themes and sub-themes related statements. Difficulties in integrated care implementation: structural conditions

Structural Conditions Sub-Theme	<ul style="list-style-type: none"> • Inadequate infrastructures • Intermediate care units overload
Statements	
<p>P4: During visits to units we found patients in alternate beds. Some of these are overloaded. P5: There was an excessive pressure not only for the network rapidly to grow but also to increase its capacity. As a consequence some units are overflowing. Even home care teams are overloaded exciding the number of home visits they can handle. P4: (...) home care teams more specifically don't have the equipment they need to provide adequate care. There are only two vehicles to transport teams along the entire region.</p>	

Participants indicated that the shortage of financial resources may constrain integrated care programs sustainability. One of the participants considers that initial or short-term costs are needed to bring off the change towards integrated care. Nevertheless, they all stated that there's a restricted budget which affects both integrated care programs progress and quality of care.

Additionally, they believe the proportion of costs supported by patients' families represent a huge burden on their budget, which prevent them to have equal access to care. Table 15 shows some of statements related with financing difficulties.

Table 15: Themes and sub-themes related statements. Difficulties in integrated care implementation: financing

Financing Sub-Theme	<ul style="list-style-type: none"> • Shortage of financial resources • Families/ carers are not able to bear the costs
Statements	
<p>P4: (...) I fear for the network sustainability. Money is not enough to pay providers; it does not cover our expenses. To save costs in the future government must spend and invest in the present. P4: (...) and some families cannot bear the costs. Even small symbolic amounts represent a huge burden on families' budget. P2: Financial resources are short to pay home care teams displacement within the region. P5: Financial constraints prevent us from gathering the resources required to provide quality care. We must adapt the existent resources.</p>	

3.3.4 Strategies to overcome difficulties

Participants identified four main areas that should be intervened to overcome difficulties in integrated care implementation:

- Education/ Training
- Financing
- Referral Process
- Human Resources

Participants believe the development of integrated care initiatives requires health care professionals to adopt new ways of working together to break down barriers and work more effectively across boundaries. They consider it is fundamental to develop and train healthcare workforce, as these new ways of working require new vocabularies and skills to facilitate collaboration. Therefore, it is suggested that education and training initiatives related to integrated care initiatives should be provided in the education continuum (undergraduate and post graduate settings).

Informants also suggested the dissemination of existing training initiatives to other regions since an infrastructure to support training has not yet been developed. Ongoing training was mentioned has a strategy for professionals to enhance their practice. Table 16 shows some of

the statements suggesting education strategies to overcome difficulties in integrated care implementation.

Table 16: Themes and sub-themes related statements. Strategies to overcome difficulties in integrated care implementation: education/training

Education Sub-Theme	<ul style="list-style-type: none"> • Higher training on integrated care • Ongoing training dissemination
Statements	
<p>P1: In our region we are already performing training sessions to local and regional coordination teams, as they don't understand the meaning and the scope of integrated care. All regions should be encouraged to provide ongoing training but we have no framework to work on that yet. P1: Training in integrated care should also be given to undergraduate and post-graduate students, but that's only provided for staff. Partnerships between higher education institutions and integrated care units should be encouraged. For example, students' internships should also comprise our units and not only hospitals or primary care settings. P2: Our staff goes through period training in other units. But higher education institutions must also take an active part in this by giving more information on health systems integration, how the network is organized, why it was created, our goals... P3: Teams should be provided with continuous training to be able to manage with this intersectoral and inter professional issues and improve their performance P4: Education on integrated care services should be embedded in higher education institutions programs. Actually, we have already been receiving some students in our region during internships. P5: education is the pillar for the development and success of any policy. In our setting periodic training sessions are being undertaken emphasizing the referral process and the use of technology</p>	

On what concerns financing, participants considered that the sustainability of integrated care networks depends on how funds are allocated. They believe the budget is short and off-balanced suggesting a reallocation of funds according to population needs. Participants recognize the significance of financing strategies, but due to current economic pressures and constraints they don't seem to rely on those. Table 17 shows some of the statements suggesting financing strategies to overcome difficulties in integrated care implementation.

Table 17: Themes and sub-themes related statements. Strategies to overcome difficulties in integrated care implementation: financing

Financing Sub-Theme	<ul style="list-style-type: none"> • Release and reallocation of funds
Statements	
<p>P4: Ministries should review how they share the budget. I believe the budget is off-balanced and expenses are not fairly shared. P5: Funds must be released so we can provide quality care. Funds must be reallocated according to local population needs. As our economy is threatened not much can be done...</p>	

Participants believe that an effective referral process ensures a close relationship between all levels of the health system and helps to ensure people receive the best possible care. They stated that a referral process will function effectively if all service providers and intervenient who are expected to adhere to the referral discipline follow the agreed protocols of care (where the process applies). It is suggested that health authorities should set national standards and criteria for the referral process in order to achieve this level of consistent professional performance.

Informants also mentioned that to avoid constraints in the referral process health workers need to assess and gather relevant information on the patients to refer them to the unit that better suits their needs. Therefore, they suggest that reconciling information systems will allow information to flow across the system, avoiding communication gaps and conflicts when referring patients.

Participants believe health professionals are the main link between patients and the system being also responsible for the success or failure in the referral process. They then suggest a reduction on the workers involved in referral and a revision on the skills they must have, in order to avoid conflicts and improve the whole process. Table 18 shows some of the statements suggesting strategies to overcome difficulties in integrated care implementation related to the referral process.

Table 18: Themes and sub-themes related statements. Strategies to overcome difficulties in integrated care implementation: referral process

Referral Process Sub-Theme	<ul style="list-style-type: none"> • Set national standards and criteria • Reconciling of the national information technology systems • Reduce the actors involved in referral process
Statements	
<p>P1: Referral criteria must be carried out equally in all regions to avoid conflicts and miss understandings. Our health authorities should set equal national referral criteria and ensure their fulfilment. P2: On what concerns the referral process I would say that the number of professionals involved in it must be reduced in order to smooth the process and avoid mistakes. P3: Reconciling information systems will allow information to flow across the system, avoiding communication gaps and conflicts when referring patients P4: We should redefine and reduce the numbers of actors involved in referral in order to avoid wasting time and misunderstood.</p>	

On what concerns human resources, all participants considered health professionals are key factors to the performance of health services. They stated the current politic and economic context makes health workers dissatisfied with their working conditions. Professionals contract arrangements and professional shortages are pointed out as the main causes for that. New contract arrangements are suggested to fill the gap of workers required and increase job satisfaction.

Farther, while some teams are considered overstaffed (such as coordination teams), others are depleted. Therefore participants suggested a revision on both the duties of coordination teams and the competencies required to incorporate those. To cope with professional shortages it is suggested to redefine staff skills and competencies as a new way of planning human resources needs. Table 19 shows some of the statements suggesting strategies to overcome difficulties in integrated care implementation related to human resources.

Table 19: Themes and sub-themes related statements. Strategies to overcome difficulties in integrated care implementation: human resources

Human Resources Sub-Theme	<ul style="list-style-type: none"> • Change contract arrangements (full-time) • Review coordination teams roles and duties • Redefine professional skills to cope with staff shortages
Statements	
<p>P1: Teams' composition should be planned according to the local community needs P2: We tried to get full-time arrangements for all team leaders so they can be completed dedicate to the teams and patients. The same should happen with the remaining staff. Teams would be more consistent and quality of care would be improved. P4: Changing professionals' contract arrangements would improve their satisfaction and performance. They are the key for quality care. P5: We now need to redefine their skills due to staff shortages. Despite professional shortages on teams providing direct care, coordination teams are overflowing. Their structure and duties should also be rethought.</p>	

These results will be further discussed on chapter 4.

3.4 Questionnaire Survey

The questionnaire construction followed the methodology presented on chapter 2, section 2.6. The main strength of this questionnaire is the setting up of a framework of analysis that allows a cross national comparison of health policies on integrated care and health workforce planning. Here we provide an overview of the fundamentals behind each question.

As mentioned before the questionnaire as two parts. The first part relates to integrated care policies and the second part particularly explores skills mix as a policy solution for integrated care programs.

Part I is built on sixteen questions seeking to explore the perspectives on integrated care policies and retrieve information about the context in which those policies are being developed.

Question 1 (Figure 10) asks respondents to classify their level of agreement with four integrated care definitions. From a researcher perspective the information retrieved allows comparative discussion between experts' answers and literature. However, for a policy maker

understanding the basic set of concepts behind a health programme is a prerequisite for the debate on health policies. The range of terms and definitions related with integrated care concepts is vast and it is important to reflect on its particularities so a broader debate come to light.

1. Please classify your level of agreement with the following Integrated Care definitions.

	strongly disagree	disagree	uncertain	agree	strongly agree
a) A mixed system comprising formal and informal care to provide social support and preventive medical services to dependent persons	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Formalized cooperation between independent health care providers geared to meet the multiple needs of patients	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) To bridge acute and primary care, intending to reduce hospital stays and improving continuity of care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Integration of activities between disciplines, professions, departments and organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 10: Questionnaire survey: question 1

Question 2 (Figure 11) asks participants to identify the driving forces to integrated care within their country. Answers can foster debate on three main issues. First, there are several documented drivers to integrated care, but literature does not make reference to the context in which they occur. For policy makers a detailed approach is fundamental to understand the context in which change occurs. Second, the identification of common drivers within Europe also contributes to a wider discussion on the globalization of factors influencing integrated health policies. Third, the relative strength of driving forces can be argued.

2. Within your national health system, which of the following drivers for integrated care, do you recognize? You may select more than one option

- ☐ a) ageing population
- ☐ b) the multi-system nature of chronic diseases
- ☐ c) hospital-centered care system
- ☐ d) the insufficient provision of community care services
- ☐ e) the lack of cooperation among health and social care providers
- ☐ f) fragmentation of services delivered
- ☐ g) Rurality
- ☐ h) Professionals shortages
- ☐ i) Increased spending on hospital care
- ☐ j) Increased lenght of stay in hospital setting
- ☐ k) advances in health care offer
- ☐ l) none of the above
- ☐ m) Other

Figure 11: Questionnaire survey: question 2

In the previous literature review there were identified several sectorial focus for integrated care programs across Europe. Nevertheless, most studies provide merely descriptive data on how programs are being implemented in specific health sectors, rather than contextualize them in the national policies. On question 3 (Figure 12), based on their experience in the field, respondents must select the health sector where integrated care programs should focus.

Question 4 (Figure 13) goes further and intends to explore what is the national sectorial focus of integrated care programs. Still respondents are allowed to identify diverse regional approaches within their health systems on question 5 (Figure 14). Information retrieved enables to identify cases in which integrated care programs are not integrated into a larger national policy. It is also useful for the development of a multisectorial framework that highlights cooperation within and between countries.

3. Which of the following should be the sectorial focus for integrated care programmes? You may select more than one option.

- ☐ a) Community based-care (including home care)
- ☐ b) Health and social care
- ☐ c) Providers (integrated)
- ☐ d) Primary and acute care
- ☐ e) Health Care System (Public)
- ☐ f) Other

Figure 12: Questionnaire survey: question 3

4. In your National Health System what is the current focus for integrated care programs? You may select more than one option.

- ☐ a) Community based-care (including home care)
- ☐ b) Health and social care
- ☐ c) Providers (integrated)
- ☐ d) Primary and acute care
- ☐ e) Health System (Public)
- ☐ f) Other

Figure 13: Questionnaire survey: question 4

5. Do you identify diverse regional approaches to Integrated Care Programs in your National Health System?

- ☐ No
- ☐ Yes (please give additional information)

Figure 14: Questionnaire survey: question 5

In spite of major parts of health expenditure being based on public finance and services, one cannot ignore other types of health care organizations within the framework of the global

health systems. Public, private and non-for profit providers are essential for the sustainability of health systems and actively participate in many health programs. The sixth question (Figure 15) instigates discussion on the interest that different types of providers might have in engaging with integrated care programs.

6. Please classify the different types of health care organizations in terms of its motivations to adopt integrated care programs in your national health system.

	not motivated	slightly motivated	neutral	motivated	highly motivated
a) Private providers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Public providers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Non-for profit providers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 15: Questionnaire survey: question 6

Is the role of the private sector in health service delivery that generates more controversy, especially in services covered by public financing. Due to economic constraints many European countries are under pressure to contain health care budgets. Policy makers already established public-private arrangements to keep sustainability and improve the performance of their health system.

Although some literature suggests that financial incentives are the main reason for private providers to engage with public-private partnerships, there is no evidence on which other factors would motivate or affect negatively their engagement in integrated health care programs. Question 7 (Figure 16) and 8 (Figure 17) asks respondents to identify those factors within their health system. Decision-makers should build on the comparative analysis of private sector interest in their own context.

7. What factors would motivate private providers to adopt integrated care programs in your national health system? You may select more than one.

- ☐ a) Efficiency
- ☐ b) Quality improvement
- ☐ c) Strategic development
- ☐ d) Flow of care
- ☐ e) Customer satisfaction
- ☐ f) Financial incentives
- ☐ g) Technological innovation and integration
- ☐ h) Market development and growth
- ☐ i) Strategic partnerships
- ☐ j) Effective use of staff skills
- ☐ k) Other

Figure 16: Questionnaire survey: question 7

8. What factors may affect negatively the adoption of integrated care programs by private providers in your national health system? You may select more than one.

- ☐ a) Lack of appropriate financing
- ☐ b) Lack of appropriate technology
- ☐ c) Unclear health policies
- ☐ d) Inadequate health professionals mix
- ☐ e) Lack of adequate infrastructures
- ☐ f) Multiplicity of players involved in the integration process
- ☐ g) Professionals shortages
- ☐ h) Bureaucracy
- ☐ i) Market competition
- ☐ j) Other

Figure 17: Questionnaire survey: question 8

The components of national health policies and programs that affect key sectors (such as financing, organizational structure and human resources) are the basis and guiding framework for delivering health services. They can provide important information about how relevant is to change strategy. On section 3.1.4 of this chapter we categorized the strategies adopted to promote integrated care within European countries. Question 9 (Figure 18) asks respondents

to classify their agreement with the strategies, and in question 10 (Figure 19) they must select those which were tested or implemented within their health system. This information is useful for policy makers who need to elaborate sector-specific action plans, protocols or guidelines. They will also be aware of the sectors that are being more or less intervened.

9. European countries adopt strategies to promote integrated care as categorized below. Please classify your agreement with the following statements.

9.1 To integrate health care organizational structures it is necessary to:

	strongly disagree	disagree	uncertain	agree	strongly agree
a) Build up a network of health and social services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Decentralize social and health care to the regions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Create coordination tools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Establish care programmes that map out patients steps through the net	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Setup local strategic partnerships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Setup intermediate care facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9.2 To reconfigure and integrate workforce skills it is necessary to:

	strongly disagree	disagree	uncertain	agree	strongly agree
a) Promote joint working	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Restructure and delegate tasks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Create case managers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9.3 To integrate complementary financing systems and sources is necessary to:

	strongly disagree	disagree	uncertain	agree	strongly agree
a) Setup shared funding system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Change patients payment mechanisms	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Decentralize of financing of the services to the regional level	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 18: Questionnaire survey: question 9

10. Of the following strategies please select those which were tested or implemented in your national health system. You may select more than one option.

10.1 To integrate health care organizational structures

- ☐ a) Build up a network of health and social services
- ☐ b) Decentralize social and health care to the regions
- ☐ c) Create coordination tools
- ☐ d) Establish care programmes that map out patients steps through the net
- ☐ e) Setup local strategic partnerships
- ☐ f) Setup intermediate care facilities
- ☐ g) Not applicable

10.2 To reconfigure and integrate workforce skills

- ☐ a) Promote joint working
- ☐ b) Restructure and delegate tasks
- ☐ c) Create case managers
- ☐ d) Not applicable

10.3 To integrate complementary financing systems and sources

- ☐ a) Setup shared funding system
- ☐ b) Change patients payment mechanisms
- ☐ c) Decentralize of financing of the services to the regional level
- ☐ d) Not applicable

Figure 19: Questionnaire survey: question 10

Knowing that there is a lot of literature claiming the potential benefits of integrated care programs, on question 11 (Figure 20) participants are asked to classify their agreement with some of those benefits. Benefits aren't more than incentives for policy makers to invest in a specific health policy. Moreover, if benefits arise to society may also inspire public acceptance of a developing health program. Answers will foster discussion on what extent the adoption of integrated care programs can be beneficial and meet population needs. Assumptions can also be made on the pathways through which such benefits are produce.

11. Please classify your agreement with the following claimed benefits to promote integrate care programs.

	strongly disagree	disagree	uncertain	agree	strongly agree
a) Continuity of care between services with different levels of expertise	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Easy access by geographic proximity to patients home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Release of hospital resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Adjustment of care to the level of patient dependency	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Facilitate the social integration of society's more vulnerable groups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Better access to flexible community services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Improved system efficiency through better coordination of care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) Patient centered care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 20: Questionnaire survey: question 11

When policy makers explore a health policy or a health program initiative they must consider all the dimensions involved. Question 12 (Figure 21) is an attempt to explore the importance of five management dimensions for integrated care initiatives. When assigning importance respondents are establishing relevance to the dimensions from which integrated care initiatives can be developed. For policy makers it is imperative to understand the relative weight each dimension has on the development of integrated care programs, so they can improve services selectively.

12. Please classify the importance of the following management dimensions for integrated care initiatives.

	unimportant	of little importance	moderately important	important	very important
a) Patient Referral	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Communication	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Human Resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Structural Conditions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Financing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 21: Questionnaire survey: question 12

The goal of every project is to achieve success. However, several factors constrain managers and policy makers effective action. Question 13 (Figure 22) asks respondents to choose,

within a list retrieved from the literature, the disruptive factors affecting integrated care programs within their country. For the success of integrated care programs policy makers should address and discuss their implications. They need to be constantly aware of the constraints affecting health policies and how they alter over time to anticipate changes and adjust strategies.

13. A number of disruptive factors affecting integrated care programs have been identified in Europe for each of the previous dimensions. Please identify the disruptive factors visible in your national health system. You may select more than one option.

13.1 On Patient Referral

- ☐ a) Imbalances related to the admission criteria
- ☐ b) Excess of bureaucracy
- ☐ c) Multiplicity of "players" involved in the process
- ☐ d) Disregard of referral criteria
- ☐ e) Lack of family support delaying the discharge process
- ☐ f) Delay in social care responses

13.2 On Communication

- ☐ a) Poor communication between units and teams
- ☐ b) Language is not standardized between professionals
- ☐ c) Information technologies incompatibilities

13.3 On Human Resources

- ☐ a) Professionals lack of knowledge on integrated care model
- ☐ b) Unclear competencies assigned to the coordination teams
- ☐ c) Precarious employments status
- ☐ d) Health professionals shortages
- ☐ e) Resistance to change
- ☐ f) Ineffective use of staff skills

13.4 On Structural Conditions

- ☐ a) Infrastructures are not adapted to the typology of care
- ☐ b) Some units have excessive workload

13.5 On Financing

- ☐ a) Insufficient financial resources
- ☐ b) Lack of innovative payment mechanisms
- ☐ c) Inability of families to bear the costs of care

Figure 22: Questionnaire survey: question 13

Critical moments of health policies development occur when decision makers have to establish priorities in the planning process. Prioritizing issues allows health policy makers to direct resources, time and energy to the components and dimensions of health programs supposed to be the most critical or practical to address. Therefore, question 14 (Figure 23) asks respondents to order interventions concerning the human resources management dimension (from the one requiring earlier intervention to the last requiring intervention). This

question narrows participant's perspective to human resources management. Nevertheless, depending on policy makers specific needs they may want to include input from other management dimensions (financial, structural...).

14. On what concerns the health professionals involved in IC programs, which of the following factors call for earlier management intervention? Please order them from 1(requiring an earlier intervention) to 6 (the last requiring intervention)

<input type="checkbox"/>	a) Professionals lack of knowledge on integrated care model
<input type="checkbox"/>	b) Unclear competencies assigned to the coordination teams
<input type="checkbox"/>	c) Precarious employments status
<input type="checkbox"/>	d) Health professionals shortages
<input type="checkbox"/>	e) Resistance to change
<input type="checkbox"/>	f) Ineffective use of staff skills

Figure 23: Questionnaire survey: question 14

To effectively implement health programs policy makers must recognize and understand their underlying processes. Question 15 (Figure 24) asks respondents to choose selected interventions to promote integrated care programs or suggest other existing ones within their country. Due to the growing complexity of integrated care initiatives in many European countries policy makers have interest in cross-national comparisons in an effort to promote knowledge transfer and best practise. Also through continuous monitoring of integrated care initiatives, interventions can be reviewed and adapted over time enhancing health programs performance.

15. Please indicate the interventions implemented you observe in your national health system to promote integrated care programs? You may select more than on option.

15.1 On Education

- ☐ a) Continuous training of health professionals
- ☐ b) Universities studies programmes should include Integrated Care theory
- ☐ c) Other

15.2 In Financing

- ☐ a) Releasing of financial resources
- ☐ b) Revision of reimbursement strategies
- ☐ c) Other

15.3 On Patient Referral

- ☐ a) Standardization of referral criteria to bridge national imbalances
- ☐ b) Aligning information technolgoy systems
- ☐ c) Creating a solid social support network
- ☐ d) Reducing number of professionals involved in the process
- ☐ e) Other

15.4 On Human Resources

- ☐ a) Create attractive working conditions
- ☐ b) Review coordination teams structure and profile
- ☐ c) Redefine health professionals skills
- ☐ d) Payment scale
- ☐ e) Other

Figure 24: Questionnaire survey: question 15

Question 16 (Figure 25) also narrows participant's perspective to human resources management. It establishes the importance of the processes and interventions underlying health professionals' management to integrated care programs. The perceived significance or importance of interventions allows policy-makers to identify those on which they should focus. In this type of question, the one corresponding to a higher score reflects a higher priority for policy-makers.

16. On what concerns human resources, please classify the importance of the interventions to promote integrated care programs.

	unimportant	of little importance	moderately important	important	very important
a) Create attractive working conditions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Review coordination teams structure and profile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Redefine health professionals skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Review payment scale	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 25: Questionnaire survey: question 16

Part II is built on six questions (17 to 22) seeking to retrieve information on how skills mix policies are being explored as a policy solution for health system related problems.

Question 17 (Figure 26) asks participants to classify the driving forces behind the need to review a specific health policy – health care teams mix – within their countries. They must assign a degree of importance to each of the drivers previously identified in literature. Drivers for skills mix are less documented than those for integrated care and for most European health leaders this is a relative new concept. The identification of skills mix drivers and the discussion of their relative strength is fundamental to understand the context in which policy changes occur and which is the better strategy to cope with them. It will also contribute to a wider discussion on the globalization of factors influencing skills mix policies in health care.

17. Please specify the importance of the following driving forces in your national health system, behind the need to review health care teams mix for integrated care programs.

	unimportant	of little importance	moderately important	important	very important
a) Cost containment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Health workers distributional imbalances	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Improve quality of care and patient satisfaction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Facilitate the interface between organizations, settings and workers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Shift from hospital based to community based services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Shortages of skilled staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 26: Questionnaire survey: question 17

Skill-mix initiatives focus on changing professional roles directly and indirectly. Roles are changed through extension of roles or skills, delegation, and the introduction of new type of workers. Across all initiatives, it is essential that policy makers recognize those undertaken within their health system (question 18, Figure 27). Also the first step towards determining and implementing an optimal skill mix within a health system involves understand and clarify its concept.

18. Which of the following skill mix initiatives were undertaken in your national health system to develop integrated care programs? You may select more than one option.

- ☐ a) Role Delegation: transferring certain responsibilities or tasks from one grade to another by breaking down traditional job demarcations
- ☐ b) Role Enhancement: expanding a group of workers skills so they can assume a wider and higher range of responsibilities through innovative roles
- ☐ c) Role Enlargement: staff members should be able to extend their activities and take roles and functions at parallel or lower levels
- ☐ d) Skills Flexibility: using multi-skilled workers that can switch from one role to another while employing various skills as required
- ☐ e) Role Substitution: to work across and beyond traditional divides in order to achieve more efficient workforce deployment
- ☐ f) None of the above
- ☐ g) Other

Figure 27: Questionnaire survey: question 18

Skills mix initiatives usually occur at the interface between services, providers and levels of care. For some European health leaders the context in which skills-mix initiatives took place is clear, but for others skills mix contextual factors still need to be better understood to assess the viability of these initiatives within their countries. The details of skills mix initiatives within European countries (health system sectors, health care levels, and health professionals involved) are explored in questions 19, 20 and 21 (Figure 28). This type of assessment is crucial to plan and coordinate efforts between the different type of services and providers involved in skills mix initiatives.

19. In your national health system please indicate in which Health System Sectors were skills mix initiatives first implemented? You may select more than one option.

- ☐ a) Private Sector
- ☐ c) Public Sector
- ☐ d) Non-for-profit sector
- ☐ e) Not applicable

20. In your national health system please indicate in which Health Care Levels were skills mix initiatives first implemented? You may select more than one option.

- ☐ a) Acute Care
- ☐ b) Community Based Care (including home care)
- ☐ c) Intermediate Care
- ☐ d) Social Care
- ☐ e) Not applicable
- ☐ e) Other

21. Between which health care professions are skills mix interventions being developed in your national health system. You may select more than one option.

- ☐ a) Doctors – Nurses
- ☐ b) Doctors - Social Workers
- ☐ c) Doctors – other allied health workers
- ☐ d) Nurses – Social Workers
- ☐ e) Nurses - other allied health workers
- ☐ f) Not Applicable

21.1 If you have chosen c) or e) in the previous question, please specify

Figure 28: Questionnaire survey: question 19, 20, 21

A new strategic approach of health professionals' skills involves achieving clarity about the key policy problems for which it is considered a solution. Therefore, question 22 (Figure 29) provides a more comprehensive analysis on the approaches to health care teams skills mix at a variety of levels. Respondents have to classify their agreement with statements on skills mix policy and strategy, implementation and development, and also on the perspective of a European common approach. Answers will foster discussion on the implications of skills mix policies.

22. Please classify your level of agreement with the following statements on developing new approaches to health care teams skills mix.

On Policy and Strategy

	strongly disagree	disagree	uncertain	agree	strongly agree	N/A
a) Altering professionals skills mix may increase their job satisfaction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Sharing tasks reduces workload and prevents professional burnout	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Skills mix results in a more effective use of staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Increased workforce skills mix and flexibility may reduce geographical imbalances on what concerns the access to specialized care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Readapting staff skills is a way to cope with professionals shortages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Integrated care models imply rethinking health and social care workers skills and competencies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Skills mix can be a cost-containment strategy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) Skills mix should be a priority for European health leaders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i) It is more likely to find barriers when implementing skills mix models in the public sector rather than in the private sector	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On mixed skills development

	strongly disagree	disagree	uncertain	agree	strongly agree	N/A
j) Workforce redesign means a better definition of staff roles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k) Workforce redesign may result in a blurring of boundaries between professional roles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l) Skills mix changes could result in a tension between professionals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m) Skills mix can be interpreted as "stepping on each other's toes"	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n) In the long-term skills mix can result in the extinction of some posts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
o) Skills mix initiatives are more likely to be successful if undertaken in both acute and primary care settings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
p) An European health professionals skills mix model should be developed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On European comparative perspectives

	strongly disagree	disagree	uncertain	agree	strongly agree	N/A
q) In my country there is a common national strategy to implement skills mix models	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
r) In my country health care professionals resisted to the adoption of skills mix models	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
s) Skills mix initiatives are more likely to be successful if all the EU countries adopt the same strategy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
t) The harmonization of skills mix initiatives between countries will contribute to optimize skills mix policies within each country	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
u) Harmonization of training between countries is fundamental for the success of skills mix initiatives in the EU	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 29: Questionnaire survey: question 22

At the end of the questionnaire respondents must provide their sociodemographic data, including the country they represent. The full instrument can be consulted in the Appendix H.

Program decisions based on survey findings contribute to improved and sustained health care services and can be complemented by other improvement methods. Combined with periodic country-based evaluations and mapping of health data, questionnaires may reveal powerful instruments for decision makers improve health service delivery.

Parallel research is being performed to test and improve this tool so it can become a useful tool for diagnosis and analysis of national policies on integrated care and health workforce strategic planning. We believe this questionnaire survey can be converted into an index/measurement tool. Nevertheless, that goal is beyond this research context .

CHAPTER 4

Conclusions and Discussion

CONCLUSIONS AND DISCUSSION

Our first research question concerned the different approaches to integrated care in some European countries. Not only in Europe, but around the world countries have invested considerably to improve health systems performance through a more comprehensive, integrated approach of service delivery. This is a worldwide trend in health care reforms focusing on more coordinated forms of care provision. (Chapter 3, Section 3.1.1)

At first sight integrated care approaches may be seen as a response to the fragmentation delivery of health and social services - an acknowledged problem in many health systems. However, health services face many other constraints that can be deal with through integration. Our study revealed that in Europe the driving forces to change the paradigm from hospital based care to a more integrated approach of the health system, are similar in many countries. (Chapter 3, Section 3.1.2)

On the demand side, demographic and epidemiological changes expectations (ageing population, multi-system nature of chronic diseases) require a reform of the health system. On the supply side, the development of healthcare technology and information systems and restrictions from economic pressures call for reforms to contain costs. People today are living longer mostly because fatal diseases can now be cured or managed, adding years or even decades to a person's life. But technological progress brings challenges and health systems are under more pressure than ever before. People may be living longer, but often they are living with several complex conditions that require special support.

Others factors such as human resources, hospital-based care systems, insufficient provision of community care services, lack of cooperation among health and social care providers, and rural context (infrastructures and accessibility disparities) are also driving forces to health systems integration.

Of particular concern is human resource shortage. Available resources have to be used efficiently as the growing proportion of dependent patients requires a mix of services across settings. Hospital based care systems represent a huge burden on national budgets requiring a

shift towards a more integrated and efficient model of care. Also difficulties in the access to care, especially for those living in rural areas, call for joint and integrated work between levels of care (hospital and community care).

On what concerns integrated care actual meaning and focus, several discourses and perspectives can be discussed. For some it means the whole health system restructuring, for others the improvement of relations between parts of the system (health and social care, acute and primary care, etc.), and for others it means a partnership between providers, organizations, and professionals. (Chapter 3, Section 3.1.3)

Also integrated care approaches and strategies widely vary due to specific national contexts. Factors as political and economic circumstances and cultural and historical background highly influence how and why integrated care programs are developed, implemented and evaluated. For instance, the UK and the Netherlands were pioneers in implementing integrated care and are the more dynamic, ambitious and innovative concerning the number of experiments and interventions already performed.

A core set of interventions towards integrated care initiatives within European countries can also be found: changes in organizational structures; workforce reconfiguring and changes in the financing systems. Structural changes are the most common initiatives within the countries involved. (Chapter 3, Section 3.1.4)

It is interesting to note that there's an apparent relation between the nature of these initiatives and the basic health care system model of the countries involved. Our research suggests that financial-type initiatives were carried out mostly within countries with tax-based National Health Systems (Beveridge model type).

In a Beveridge-type health system the responsibility of the budget is in hands of the ministry of health which is associated with a stronger influence and control from the government. Cost control might be easier when exercised by central government. In other words, policy makers might feel more confident in implementing health financing initiatives in countries where they keep budgets control. On the other hand Social Security Health Systems (Bismarck model

type) deal with a plurality of providers and abundance of choice, which increases difficulties in implementing and control financial reforms (Or, et al., 2009).

It is recognized that performance tends to be higher in countries that are organized around the Bismarck model, than those that are organized around the Beveridge model (Van der Zee & Kroneman, 2007). This means that healthcare systems that allow competition between insurance providers, and in which insurers are organizationally independent of healthcare providers, tend to be the top performers. Nevertheless, the strict separation between financing and provision of care prevents cooperation and coordination within the system – basic requirements for the success of integrated care.

For instance, health care delivery in Germany is highly fragmented, resulting in poor vertical and horizontal integration. Patients can freely choose and directly access both primary and secondary care providers, making coordination and cooperation within and across sectors difficult (Schlette, Lisac, & Blum, 2009). As we brought forward in our study, recent policy reforms are aimed at building up a network of health and social care to patients with more complex or chronic conditions. In Germany, these include on the contractual side integrated care contracts, and on the delivery side disease management programs, medical care centres, gatekeeping and joint working. (Chapter 3, Section 3.1.4)

Also the fragmentary funding system hindered the establishment of long-term programs in the Netherlands. Numerous initiatives were introduced to enhance the quality and continuity of care for chronic diseases from which the creation of care groups stands out. In care groups multiple health care providers are involved in care programs to fully cover the needs of patients with a chronic condition at all levels of care. Both organizational and financial responsibility for the assigned programs is assumed by providers enhancing horizontal cooperation and coordination (Struijs & Baan, 2011).

Another distinguished feature between Beveridge and Bismarck-type health systems is that in the former both provision and financing of health services are handled within one organizational system (Or, et al., 2009). However, many Beveridge-type health systems are reviewing the distribution of responsibilities, duties and power by walking to a more

decentralized provision of services. On what concerns integrated care decentralization of financing and health and social care to regions is occurring (Portugal, Spain, UK, Ireland,...). By doing this central governments are assigning autonomy to health regional authorities, increasing the opportunity of working more effectively with local providers and population, and strengthening cooperation. (Chapter 3, section 3.1.4)

The UK for instance recently adopted a strategy by decentralizing decision making regarding taxation to regional authorities. Regional units are responsible for the provision and financing of health services, but can also contract with independent providers. (Chapter 3, section 3.1.4) Still, in Beveridge type health systems where decentralization was brought forward as an integrated care strategy, the central government keeps the main role of regulator and supervisor, keeping control on the total National Health System spending.

Moreover, recent studies showed that the expenditure on health per capita in Social Security Health Systems has become higher compared to tax-based National Health Systems, due to the increasing demand of long term care. Such trend suggests that even top performers should consider alternative approaches on what concerns long term care financing strategies (Or, et al., 2009).

Despite the existing constraints, it is not possible to make assumptions on which health system model integrated care initiatives would be more successful. On Beveridge-type health systems, interventions seem to be implemented at all levels of care, encompassing all players involved in the care process, therefore promoting both vertical and horizontal integration. Apart from regional variations in most cases central government keeps the control on national health budget, and takes an active role on organizing the providers.

On the other hand, on Bismarck-type health systems (e.g. France and Germany), national governments are limited on what concerns decision in insurers expenditure, and interventions comprise the creation of networks of independent providers that follow patients through different levels of care. It enhances vertical integration, that is the the coordination of services among operating units that are at different stages of the process of delivery patient services.

We can argue that the degree of integration depends on each national health market context and many other internal factors such as the extent to which providers are assimilated into the larger system, the proportion of health services that are fully integrated in the system, or who detains national health budget control. Still, a process of convergence in health care systems seems to be taking place. Most health systems are in a similar but evolving state of integration, attempting to provide a full continuum of services environment that eliminates intermediate costs, promotes wellness and improves health outcomes.

Nevertheless, integrating health services requires much more than developing processes of care through organizational and financing strategies. Most integrated care services operate at the interface of numerous agencies, settings and professional groups, also requiring workforce structures that can reflect and respond to this complexity. As integrated care initiatives make headway through health policies, major concerns with health workforce planning are also rising.

In many European countries the current health workforce planning is much concerned with discussion and suggestions about the optimal composition of a health workforce, whereas in other parts of the world (USA, Australia, New Zealand) health leaders already started experimenting alternative skills mix scenarios and examining the staffing, service and costing implications of it.

This trend leads us to the second objective of our research: identify issues concerning the adoption of skills mix as a management tool in the international context of workforce strategic planning.

Similarly to integrated care there is also a consensus on what concerns skills mix drivers. It is seen as a policy solution to address a range of health system related problems: staff shortages, cost containment, distributional imbalances, quality improvement, and the interface gap between organizations, settings and levels of care. (Chapter 3, section 3.2.2.1)

Despite the fact this key healthcare management issue is being discussed in the USA and Australia since the 1990s as a potential solution to health services delivery, in Europe the

skills-mix concept only became a relevant healthcare management research theme around 2000. Though there's a basic consensus on skill-mix drivers and a general understanding of the concept, after 13 years of research on skill-mix initiatives the same lack of evidence is being identified as the same mistakes are being undertaken. (Chapter 3, section 3.2.2.3)

It is important for policy makers to note that there is no evidence of a structured analysis on the context in which each skills mix initiative should be implemented. From what we could determine, most studies describing skills-mix models implementation were undertaken in the USA and Australia in specific care settings and are mostly focused on doctors–nurses mixes. Non-European experiences should be cautiously analyzed once there are considerable differences between cultural backgrounds and health systems models.

Even in the European context it is not possible to generalize conclusions from the available research because the context in which studies were undertaken is different. Hence, there is no common strategy for health systems to evaluate skills mix effectiveness and the literature examples are unrepresentative and based on descriptive data. Most studies do not explain why a particular approach to skills mix was chosen, nor give enough information about the context in which decisions were made.

Furthermore, although the literature considers that one of the main drivers to skill-mix implementation is the reduction of costs, economic evaluation has been underused in skill-mix studies in spite of the finding that a few studies undertaken in small healthcare settings suggest that it can be cost-effective.

On what concerns quality perceptions, there are a few rigorous studies on patient perceptions of how skills mix affects the quality of their care and once again most studies with strength of evidence were undertaken in small and specific healthcare settings and professional groups, preventing generalization. There is evidence on professional's perceptions, but there is not enough evidence to evaluate skills mix impact on healthcare.

Regardless the lack of evidence on skills mix policies, all the approaches (delegation, innovation, relocation, substitution,...) have in common the acquisition of new competencies and specialization of staff. Nevertheless, depending on the strategy leaders adopt when

planning and restructuring health workforce mix they may take the risks underlying *hyperspecialization*.

The term *hyperspecialization* means breaking work previously done by one person into more specialized tasks done by more specialized people - a logical strategy as much of the success health services achieve comes from the productivity gains of dividing work into smaller tasks performed by more specialized workers (Malone, Laubacher, & Johns, 2011).

Hyperspecialization initially requires a high investment in specialized staff. Still in the long run with quality, speed, time and cost gains, eventually with few deflections on the care process: quality because work is done by someone who is good at it; speed and time because tasks can often be performed in parallel rather than sequentially; and cost because of a more efficient use of the organization's resources. Also, in some cases this division of labour frees up other health workers to spend time on higher-value activities. In England for example the prescription of medicines by nurses has proved to be an important part of the solution in improving access to medicines and cutting waiting times for patients, also releasing doctors for more high skilled and time consuming tasks.

Nevertheless, health workers involved in *hyperspecialized* roles may find they have greater flexibility and in some cases more importance in relation to more traditional roles, still risking become trapped in specific functions, which could impact their career progression. On what concerns integrated care that may be one aspect of the *hyperspecialization* trend: very skilled people who know a lot about their particular tasks and work setting but wholly dependent on people in a different setting, with nobody to stand above and show how things all tie together and how to work in an integrated way.

Coming back to the potential risks of restructuring of health workforce mix, it is suggested that staff shortages could be alleviated by redefining jobs, for example, with skilled workers (e.g. senior nurses) coordinating the work of *hyperspecialists* (e.g. nursing assistants) performing lower-skilled aspects of their jobs. Also, if several tasks can be performed by a single competent professional health care costs can be saved. Nevertheless, we believe that

when reviewing and adjusting skills mix to deal with staff shortages there's the risk of a blurring of tasks and competencies behind professions.

Blur the role boundaries between staff may threaten professional identity, negatively affect teamwork and have a rebound effect on the quality of care. Lack of clarity about professional roles means that, in fulfilling useful, flexible, and cost-effective new roles, staff may serve managerial, economic, and patient interests, and their roles may remain limited with no obvious benefits for the development of their professions. Also, professionals' may not abandon their previous duties, instead accumulating tasks and risking overload.

In the integrated care context streamlining workforce planning and development, means maximizing the contribution of staff from all levels of care, putting away the barriers that state that only high skilled professionals can provide particular types of care or take part on important management decisions. Less skilled health workers can learn how to carry out more specialized tasks such as: negotiate care plans with patients; route patients' through levels of care, acting as gatekeepers; or take an active part on evaluating patients' health and social needs...). Skills mix enable health workers acting within levels of care meeting patient's multiple and complex needs, with the potential to reduce service fragmentation.

Thus, the appropriateness of developing skills mix in such a complex interface as integrated care, may depend on a range of factors, such as patient needs, the existing skills mix, patient and staff attitudes and culture, and having the staff, time, and financial resources to invest in appropriate training, mentoring, and supervision.

We believe there are several other implications in reviewing and adjusting skills mix. Nevertheless, in order to make informed choices, health leaders need good research evidence about the likely consequences of skills-mix change. Also being able to recognize differences between countries and contexts will allow a better comprehension of the effectiveness of the initiatives and diverse ways to implement them. In line with the European Qualifications Framework (EQF)⁹, all European member states are in the process of developing National

⁹ The EQF aims to relate different countries' national qualifications systems to a common European reference framework, to better understand and compare the qualifications levels of different countries and different education and training systems. Available at: http://ec.europa.eu/education/lifelong-learning-policy/eqf_en.htm

Qualification Frameworks to describe professional qualifications with the knowledge, skills and competences they lead to. This shared focus on skills will provide an opportunity to bridge the skills mix policies gap between European countries. It will also help to increase the relevance of health workers education and training, and to improve the matching of supply and demand within national health markets.

As workforce planning strategies are already being developed in many countries and settings, it is important that health leaders discuss and think over skills mix policies in the current health markets context. The European Union's growth strategy (Europe2020¹⁰) affirmed the need of a common language between education/training and the market needs. On what concerns the health market we believe that by matching competencies to real needs, European countries will be able to better address skills gaps and improve health services and health policies.

Comparatively to other European countries, Portugal is at an early stage in what integrated care is concerned. Also the investigation and practice of reviewing and planning workforce mix that has been gaining breadth in other European countries is slowly getting to our country.

Therefore, under the third objective of our study we contextualized the dynamics involving the implementation of integrated care in Portugal. Due to the limited dimension of our sample results can only be considered and discussed together with literature review data as following.

The same demand and supply related constraints found in other European countries also called for a more integrated approach in the Portuguese health and social care policies (ageing population, increasing in chronic diseases, economic pressures, fragmentation...). Health leaders have also recognized potential benefits of integrated care common to other European countries: *continuity of care*, because patients have individual care plans that map out their route through the different levels of care, fighting fragmentation; *ease of access*, as the

¹⁰ Europe 2020 is the European Union's ten-year strategy for smart, sustainable and inclusive growth: smart, through more effective investments in education, research and innovation; sustainable, thanks to a decisive move towards a low-carbon economy; and inclusive, with a strong emphasis on job creation, investment in skills and training, and poverty reduction.

creation of intermediate care facilities and community-based teams throw down previously existent geographical barriers and allow keeping patients in their usual social environment; *adjustment to patients' needs*, as programs combine the provision of both health and social care, addressing chronic patients' complex functional and social needs; a more *effective use of financial resources* is also an expected outcome, as keeping patients in specialized units that better suit their needs is considered to be more affordable than providing general care in acute care facilities. (Chapter 3, section 3.3)

In 2006, the development of a national network for integrated care was an attempt to place Portugal at the same level of its European counterparts. (Appendix A)

Within the Portuguese health system, the integrated care approach is rather organizational and financial, whereas little attention is given to workforce integration. National integrated care policies aim at promoting intersectoral partnerships, integral planning, and multidisciplinary practice between several levels of care. In line with the international approaches, integration of health and social services and bridging primary and acute care are the main targets of the national integrated care network. Also the model of coordination is decentralized and supported by three lower levels of coordination (national, regional and local). Other coordination mechanisms, such as information technology tools, care plans and protocols, are also examples of interventions that make organizational approaches stand out on what concerns the development of integrated care within the Portuguese health system.

Financial integration strategies were also focus of attention when developing the national integrated care network. The establishment of partnerships with the public sector, the non-for profit and the private sector, underlie the model of cooperation and shared financing, where both state and society share the investment and the development of services.

On what concerns workforce planning and integration it is recognized that health services performance is highly dependent on health workers knowledge, skills and motivation (Chapter 3, section 3.2.1). In integrated care it is even more relevant as professionals must work within different organizations and settings to meet patients' multiple and complex

needs. Several other countries already engaged in health workforce planning and reconfiguring, but Portugal is still in an early stage on that.

A recent paper work commissioned by the World Health Organization on the policy context for the deployment of nurses in advanced roles in Portugal, stated that various stakeholders have already advocated for the revision of health workforce, with particular emphasis on nurses scope of practice. Nevertheless, the low acceptability was found to be a constraining factor on this kind of policies (Buchan et al, 2013).

Portugal is still in the stage of analyzing the acceptability of health workforce planning and revision. Nevertheless, we have been assisting to workforce underutilization through restrictions on hiring skilled staff. As a consequence many health professionals are feeling overloaded and exploited and quality of care is being affected. Health leaders must go forward with initiatives in order to gather evidence on the effectiveness of health professionals skills mix policies. We also believe that the integrated care network provides the appropriate scenario for the experiment of innovative roles, as professionals constantly operate between seamless professional and organizational boundaries.

Performing role changes experiences in the acute care setting requires a more detailed and rigorous approach as the marked complexity of tasks require more high skilled professionals. Nevertheless, regardless the setting in which skills mix policies take place, strict professional regulation is requested and associated educational requirements must be identified.

The framework in which post-acute, rehabilitation and long term care units and teams operate apparently foster both horizontal and vertical integration within the system. Horizontal integration because it is expected the coordination of activities across operating units and teams at the same stage of delivering services. These units are within the scope of a single management entity - regional coordination teams - that can establish strategic arrangements and alliances with local partners to form more efficient local networks. Patients can be provided with care from competing units with similar levels of care, with no expected impact on the type and quality of care provided.

However, vertical integration is highlighted as the integrated care network groups together different yet related organizations and sectors (public providers of acute and primary care, non-for-profit providers, private providers), units (convalescence, medium-term, long-term) and teams (home care), that offer a continuum of services through various levels of care (post-acute, rehabilitation and long-term care).

Nevertheless, our research shows that the path towards a fully integrated health care delivery system is far from ending as other essential components of the integration process are missing and a range of difficulties must be addressed.

From what we could retrieve our health leaders described a merely managerial integration of the system, with no effective functional integration. There are common policies on financial management, human resources, strategic planning, information management and quality improvement, with few common practices within regions for each of these functions. A series of gaps were described compromising both functional and clinical integration: at the organizational level - disparities in the referral process, excessive and time consuming bureaucratic procedures, dearth of social support, facilities inadequate infrastructure and units overload, ineffective disease management due to communication problems; fragmented and incomplete information systems; at the financial level – shortage of financial resources from both government and families; on human resources – staff shortages, ineffective use of staff skills, non-defined roles, lack of knowledge on integrated care models, resistance to change and inadequate contract arrangements. (Chapter 3, section 3.3)

But as the integrated concept itself foresees the co-existence of all three management approaches, their dissociation or a breach in one of them will constraint and compromise the remaining and the effectiveness of the entire network.

There is no ideal management structure, but we believe the present Portuguese health governance model – single board (Ministry of Health) with decentralized management – may have the ability to support the development and delivery of integrated care services in a consistent and efficient manner across the system, as integration does not mean mere centralization or standardization, but it requires shared and common procedures and policies.

Still, due to changes in the Portuguese government and economic constraints, the recent and successive number of health reforms that have been put forward, are far from being coherent. Organizational measures are in the frontline of health care policies reforms, but as this study evidences, the focus of health leaders should shift to a more planned approach of human and financial resources, in order to induce a more effective use of resources and control of expenditure.

The findings on our interviews perceptions show no discrepancy with literature but are rather scarce comparing to international experience. Informants hold a realistic but narrow view of integrated care related issues. They seem to be limited to the regional context, requiring a more comprehensive perspective.

To take sustained decisions it is vital that health leaders understand as much as possible about interventions concerning integrated care and workforce skills mix planning. That's where the development of a health policy assessment tool is brought to discussion. The questionnaire we have developed will allow policy makers to understand the basic set of concepts behind integrated care health programs. It will foster discussion at the three essential components of integrated care policies: organizational, financial, and human resources development. The questionnaire gives additional input on the context in which integrated care is being developed, the type of providers and organizations involved, barriers and constraints, and the workforce skills mix planning related strategies. (Chapter 3, section 3.4)

Being able to recognize differences between countries and interventions will allow a better comprehension of the international options available and how to address the vital components of integrated care programs.

Limitations of the study

Every study, no matter how well it is conducted has some limitations. This research is primarily limited by the sample dimension concerning the interview methodology. The sample size could have been expanded by including local health leaders and decision makers from acute and community settings. Most important with respect to the current research, is

that we considered only clearly determined population and sampling settings. A larger sample with representants from a diversity of settings may have produced different and greater diversity of results and enrich our discussion. The extent to which our findings can be generalized certainly requires further investigation especially on what concerns integrated care constraints and solutions. A greater depth of information may have been obtained by conducting focus groups comprised of participants representative of the sample. Discussion could include the topics previously identified in individual interviews, such as the solutions for the constraints in implementing integrated care. Also collecting data in one language and presenting the findings in another involved us to take translation-related decisions that may have had a direct impact on the validity of the research and its report.

CHAPTER 5

Considerations and Recommendations

CONSIDERATIONS AND RECOMMENDATIONS

Portuguese decision makers who participated in this study recommended four main areas that should be intervened to overcome integrated care policies difficulties: education and training, financing, referral process and human resources. Based on the results of this research project, international literature and on the analysis of these perceptions, in this section we make some considerations and recommendations to address the issues that may support the further development of integrated care in Portugal.

Integrated care policies

- Integration is a continuous process that has to be resolved over and over again, as it is influenced by a series of dynamic factors that constantly change and evolve (health systems, institutions, professionals, demography, economy and culture).
- The goal of integration should be achieved through a series of incremental steps within the health system, comprising organizational, financial and workforce planning.
- Organizational, financial and workforce strategies are intrinsically linked and all their related constraints should be addressed in order to achieve effective functional and clinical integration.
- Due to the recent economic pressures more attention has been given to financial strategies. But the potential of workforce planning should also be considered as a potential strategy to reduce costs and keep budgets over control, especially in a sector involving such a multiplicity of players and organizations as integrated care.
- There is no ideal management structure, but in Beveridge type health systems interventions seem to encompass all levels of care and all players involved, apparently fostering a fully integrated delivery system.
- There is also no “one best way” to achieve coordination. Integrated care planning requires a locally driven approach. That is a variety of strategies must be tried in different settings as they are not necessarily transferable or equally effective to the entire system
- Decentralized management gives local governments the ability to tailor health care to the need of local populations, through greater integration of activities and improved intersectoral coordination at the local level.

- Shared and common procedures alongside with information technology systems streamline the bureaucracy problems that may constrain the integration process.
- There are a number of existing models of integrated care that can serve as examples to others. A collaborative network of national partners to share best practices, and practical tools that can be tailored for local use, such as model contracts and budget arrangements.

Workforce Planning/ Collaborative Working

- The development of integrated care initiatives requires health care professionals to adopt new ways of working together.
- Break down barriers and work more effectively in new configurations and across boundaries will maximize the contribution of the workforce.
- Little attention is being paid to workforce planning as a cost containment strategy. Health leaders should consider international evidence on the benefits of this type of approach.
- In Portugal there's not a coherent model for health workforce planning and government strategy undergoes dismiss professionals to reduce wages burden. But this is a short-time impact strategy that requires additional measures. Professionals' skills must be reviewed in order to meet population and health system needs.
- Multispecialty groups of health and social care professionals should be established in which, for example, less skilled workers learn and work alongside high skilled workers to establish guidelines to promote best practice and support sustained decisions without prejudice of care quality.
- Both ratio of professionals and skills or level of specialization required must be determined by analyzing the local needs of specific groups of population.
- Contextual factors constraining skills mix changes must be addressed, such as: acceptability, payment structures, legislation and professional regulation and education.
- Skills mix policy initiatives must be government-led, because its support is crucial to overcome legislation constraints on the development of regulatory arrangements (concerning education, financing and statutory recognition of skills).
- The current politic and economic context makes health workers dissatisfied with their working conditions and wages. Health leaders should consider the adoption of a system of financial incentives and new contract arrangements to increase professionals' satisfaction, motivation and performance.

- As most of skills mix initiatives involve doctor-nurse mixes, the support of the professional associations representing both professions is fundamental for its acceptability and success.

Education and Training

- Integrated care involves multi-professional teams working together in a complex and changing environment. Working in a collaborative way beyond professional boundaries require new ways of learning, new vocabularies and skills to facilitate collaboration.
- It is fundamental to develop and training healthcare workforce in order to meet this new model of care. Also educational training for enhanced or new professional roles is vital.
- Both professional associations and Education Ministry should have a joint approach in order to develop an appropriate educational infrastructure to meet this new workforce planning challenge.
- Joint training provide opportunities to build relationships between different professions and agencies as well giving an opportunity to inform professionals about new services and the policies and procedures that underpin them.

Financing

- There should be alternative approaches to funding integrated care. Financial incentives could be considered for the achievement of specific health goals. Shared budgets may alleviate the burden of a single management entity. Joint funding can eliminate gaps in the provision of care by reducing the distortion caused by separated funding streams for different types of care. It also provides transparency.

Information Technology

- In order to achieve more integration of care processes and better collaboration among providers, information must be shared across the system and communication between providers and professionals must flow.

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- Information technology systems are useful to eliminate duplication, to timely access to patients' information, and reduce delays in the care process.
- In Portugal existing information technology seems to be ineffective concerning information sharing, because software is not compatible within and between organizations and does not allow share information between applications.
- Funding and payment mechanisms to the companies developing information tools must be adjusted. The government should not have to spend anything on network development until the network is running successfully as defined by the licence requirements, not facing the risk of a failed network implementation.

Suggestions for further research

- Apply and enhance an assessment tool for cross national comparison of health policies on integrated care and health workforce planning.
- Assess the needs for integrated care services in terms of activities and required skills and competencies.
- Assess the impact of contextual national constraints in skills mix approaches.
- Develop a conceptual model for determining health workforce skills mix.
- Develop a regulatory framework that support and encourage collaborative working and health workforce skills mix.

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APPENDICES

APPENDIX A

APPENDIX B

APPENDIX C

APPENDIX D

APPENDIX D

This appendix contains an excerpt of the data form used for data extraction and content analysis on the integrated care systematic literature review.

Article	<i>“Responding to the challenge of chronic diseases: ideas from Europe”</i>	<i>“Comparing integrated care policy in Europe: Does policy matter?”</i>
Authors	Martin McKee, Ellen Note	Ingrid Mur-Veeman, Arno Van Raak, Aggie Paulus
Publication Year	2004	2008
Country/Region	Europe (UK, Germany)	Europe (Finland, Sweden, Austria, Spain, Netherlands, UK)
Method	Systematic Literary Review	Systematic Literary Review
Study Setting	Health System Analysis	Health System Analysis
Study Objective	Explore the nature of the challenges of chronic diseases in Europe AND describe responses that seek to address these challenges	Address the interplay between integrated care policies and integrated care development in a specific national context
Key Points	<ul style="list-style-type: none"> - The delivery of health care is becoming increasingly complex, as ageing populations have multiple chronic disorders - Growing evidence of effectiveness often overlooks those with the most complex problems - The way in which healthcare is provided must change to meet the challenge of complexity - New ways of working include bridging the interface between hospital and primary care and changing skill mix - Tax funded systems may find it easier than those funded by social insurance to implement necessary changes 	<ul style="list-style-type: none"> - A proactive integrated care policy by national government as well as regional and local authorities is fundamental (legislation, financial incentives and other stimulating measures encourage providers to establish integrated care and support their efforts) - The way policy is formed and implemented depends on the institutional constellation within which the health and social care system functions (the power position and roles of the actors, their interactions, and the rules and expectations within the system) - Integration is suppressed when the acute care sector dominates and is not interested in the integration of services - A promoting governmental policy is necessary but not sufficient to arrive at successful integrated care delivery - The countries culture is a potential explanation for the state of affairs concerning integrated care, and for the interactions between the actors and the choices they make
Challenges	<ul style="list-style-type: none"> - Advances in healthcare (keeping people alive and controlling but not curing their conditions) 	<ul style="list-style-type: none"> - Lack of continuity of care - Lack of cooperation among providers, service users and authorities

	<ul style="list-style-type: none">- Aging population (drugs being administrated to people whose age would have excluded them from trials that demonstrate their effectiveness)- Multi-system nature of chronic diseases (create diverse needs)- Empowered patients (they do not accept uncritically the model of care provided from them)	<ul style="list-style-type: none">- Fragmentation of the system- Lack of resources- Limited coordination power in primary care- Initiatives often fail in terms of continuation
Interventions	<ul style="list-style-type: none">- nurse-led clinics (primary care teams)- bridge health and social care- national service frameworks (UK)- Disease Management Programs (Germany)	<ul style="list-style-type: none">- Promoting programs like open care for the elderly, day surgery and home hospitals (Finland)- Institutional merger between central bodies to support collaboration and facilitate integration (Sweden)- Disperse government subsidies for integrated care development (Austria)- Decentralise social and health care to the regions (Spain)- Nurses becoming a central and string coordination force (Netherlands)- Coordination shaping at local level (UK)
Definitions	<u>Integrated Care</u> – a chronic care model that emphasizes the importance of exclusive relationships with providers, integration across interfaces, appropriate financial incentives, and explicit models for chronic disease management.	<u>Integrated Care</u> – a coherent and coordinated service delivery to individual service users across a broad range of health and social care organisations, various professionals and informal caregivers.

Article	<i>“The effectiveness of quality improvement tools: joint working in integrated community teams”</i>	<i>A literature review to explore integrated care for older people”</i>
Authors	Guro Huby, Gwynneth Rees	Jan Reed, Glenda Cook, Sue Childs, Brendan McCormack
Publication Year	2005	2005
Country/Region	UK (Scotland)	Northern Ireland
Method	Case Study	Systematic Literary Review
Study Setting	Community-based health care teams	Health System Analysis
Study Objective	To explore the effectiveness of integrated care pathways in facilitating integration in community-based teams	Outline the strategies that have been explored to promote integration across the care system
Key Points	<ul style="list-style-type: none"> - Integration is a key agenda of “quality improvement” in the NHS - Integrated care pathways explicitly seek to improve integration at operational level by shaping multi-disciplinary documentation, communication and care planning, that means, improving a complex care process - The effectiveness of a pathway tool requires attention to organizational context - One integrated care pathway model does not fit all. Each setting requires a tailor-made “map” of integration that guides action through the particular complexities at hand 	<ul style="list-style-type: none"> - Older people have complex and interacting needs, and they often require treatment and care from a range of professionals and carers, services and agencies at the same time - Older people access the support they need from a wide range of statutory, independent and voluntary sector services - When so many staff, services, sectors and agencies are involved it is easy for gaps and fragmentation in care, lack of coordination, or duplication of services to occur - Collaborative working and integration of the various parts of the care system will minimise the problems that older people and service providers encounter (cost-effectiveness, reduction in length of hospital stay, reduction in inappropriate hospitalization and decrease in admission to long-term care)
Challenges	<ul style="list-style-type: none"> - Integration is driven by the formation of multi-disciplinary teams or networks with varying relationships to “parent” organizations and professions (different histories produce different conditions for integration in individual localities) 	<ul style="list-style-type: none"> - Services are short of providing appropriate, timely and co-coordinated care for older people - Promote integration between health and social system

Interventions	<ul style="list-style-type: none">- Integrated Care Pathway implementation according to organizational context- Mediate relationships between networks and hierarchies- Continuous monitoring of the tool's impact	<p>MACRO Strategies (societal level):</p> <ul style="list-style-type: none">- decentralization in both decision-making and financing of the services at the local level- local strategic partnerships- remove structural, organisational and financial boundaries <p>MEZZO Strategies (organisational level).</p> <ul style="list-style-type: none">- promote interorganisational working- enhance connectivity within organisations by modifying or changing structural arrangements- restructuring of different types of care (acute and long-term care, rehabilitation services, intermediate-care,...)- create information systems (ICT) capable of sharing information across health and social care organizations <p>MICRO Strategies (individual service user level):</p> <ul style="list-style-type: none">- map out older person's journey through services- professionals that support older persons in their access to relevant services and transition between them (discharge managers, case managers, liaison nurses,...)
Definitions	Integration – collaboration between members of different organizations or professions to deliver a service centred on service users	Integrated Care for Older People – coordinate health and social care to provide appropriate, timely and co-ordinated care for older people

Article	<i>“Primary health and social care services in the UK: progress towards partnership?”</i>	<i>“Breaking down barriers: integrating health and care services for older people in England”</i>
Authors	Kirstein Rummery, Anna Coleman	Caroline Glendinning
Publication Year	2003	2003
Country/Region	UK	UK
Method	Qualitative Study	Qualitative Study
Study Setting	Health and Social Services Analysis	Health and Social Service Analysis
Study Objective	Examine the partnership working between Primary Care Groups and Trusts (PCG/Ts) and social services departments (SSDs) in England.	Examine the two major current policy initiatives in England intended to enhance service integration
Key Points	<ul style="list-style-type: none"> - In order for the development of commitment and ownership of the partnership, and the maintenance of trust to be possible, interprofessional differences between health and social care workers need to be acknowledged and dealt with before services can be developed jointly - Whilst joint teams to facilitate interorganisational co-ordination can be helpful, it is important to get the wider organisation to support and accommodate the aims and values of the joint team - There is clearly some work to be done in getting social services organisations signed up to joint working with PCGs - One side cannot be seen to be completely taking the process over; it has to be a joint activity, in which both sides benefit 	<ul style="list-style-type: none"> - England is facing demographic and political pressures to reduce fragmentation of services for older people - integrating services can reduce fragmentation and discontinuities, and improve user satisfaction and outcomes - current government policies emphasise collaboration and partnership between health and social care services - structural factors, pressures and constraints operating at the macro and meso levels can profoundly influence and circumscribe the degree of integration in the services received by individual older people - removing or relaxing structural, organisational and financial boundaries assists progress along the collaborative continuum towards integration - integration initiatives (PCG/Ts and HAF) can transform preoccupations over narrow responsibilities and boundaries to a whole systems paradigm of service planning and delivery - internal barriers to integration may remain (professional domains and identities)

Challenges	<p>The existing difference in the organisational capacity of social services departments and PCG/Ts:</p> <ul style="list-style-type: none"> - SSDs are hidebound by bureaucracy: - SSDs are funded through local taxation, and thus answerable to local councillors for service developments - As part of the NHS, PCGs are funded through national taxation and has no direct local accountability - PCGs don't have certain statutory obligations, thus they have more flexibility to provide services - PCGs have clear objectives that are a result of guidelines and frame works set by the Secretary of State for Health - PCGs benefit from extra resources and SSDs do not - NHS services are largely free at the point of delivery to patients; Social services users usually have to pay service charges - PCGs members have no experience in working with social services. There is a lack of strategic management experience; 	<ul style="list-style-type: none"> - the ageing of the population increase the experience of complex health and social problems which requires multiple service responses - traditional hierarchical and bureaucratic methods of reorganisation are inappropriate, ineffective and redundant - publicly financed and regulated healthcare systems operate within economically and politically budgetary restrictions - the structural factors, pressures and constraints profoundly influence and circumscribe the degree of integration in the services received by older people
Interventions	<ul style="list-style-type: none"> - investment in managerial support - development of a multidisciplinary assessment tool - allow time for relationships and trust development so that professionals can achieve a set of shared values - identify shared priorities and objectives - key individuals within health and social services able to work beyond the limitations set for them by their own organisations priorities and values; - integration of primary and community health and social care services for older people through Care Trust organisations 	<p style="text-align: center;"><u>Integration initiatives</u></p> <p><u>Primary Care Groups and Trusts (freestanding, semi-autonomous organizations with managerial capacity):</u></p> <ul style="list-style-type: none"> - local implementation of all national health policy and service developments - improving the health of the local population - planning and purchasing local health services - providing a range of primary and community health services - statutory obligation to work in partnership with other NHS organizations - promote collaboration between professional groups <p><u>Health Act Flexibilities (legislation to relax some statutory duties and obligations of NHS and local authorities):</u></p> <ul style="list-style-type: none"> - pool budgets for specific services (with the pooled budget losing its distinctive "health" and "local authority" origins and identity) - delegate responsibilities for services planning and commissioning to a single "lead" organization which commissions services on behalf of all the partners

		<ul style="list-style-type: none">- integrate health and social services within a single organizational, managerial and employment framework
Definitions	Integration - Partnership working between primary care groups and trusts and local authority social services departments to provide community-based health and social care services for older people. pp1774	<p>Integrated Care – it can be reached when relationships between organisations exhibit at least several of the following characteristics:</p> <ul style="list-style-type: none">- joint goals- highly connected networks- mutual and diffuse sense of long-term obligation- high degree of mutual trust and respect- joint arrangements encompassing strategic and operational issues- shared or single management arrangements- joint commissioning at macro, meso and micro levels

Article	<i>“The Domiciliary Support Service in Portugal and the change of paradigm in care provision”</i>	<i>“Barriers and facilitators to health care coordination in two integrated health care organizations in Catalonia (Spain)”</i>
Authors	Silvina Santana, Ana Dias, Elisabete Souza, Nelson Rocha	Ingrid Vargas Lorenzo, M. Luisa Vazquez Navarrete
Publication Year	2007	2007
Country/Region	Portugal – Aveiro	Spain – Catalonia
Method	Case Study	Exploratory Study
Study Setting	Health and Social Service Analysis	Health Care System Analysis
Study Objective	Describe and discuss the services provides by the institutions that participate in Domiciliary Support Services and understand if this service is the first step in a change towards integrated care	Analyze two integrated delivery systems (IDS) in Catalonia and identify areas for future development to improve their effectiveness
Key Points	<ul style="list-style-type: none"> - The fast growing elderly population demands a deep analysis on the adjustment of the care system which is presently very fragmented - Socio-demographic trends demand new approaches in the provision of care to promote continuity - Domiciliary Support Services are believed to be the first approach to integration. However the integration exists only with the Social Security and rarely with some health centres - The health and social systems , although independent are divided by different goals and rules, intersectoral boundaries and professional and cultural differences - The provision of care is fragmented, discontinuous and inefficient 	<ul style="list-style-type: none"> - delivery care systems coordination has become a priority for most countries with an ageing population requiring multiprofessional interventions - inefficiency in the coordination process has been related - both analysed IDS present facilitators and barriers to health care coordination - it is recommend the collaborative working and integration of the various parts of the care system to minimise the problems between professionals and providers
Challenges	<ul style="list-style-type: none"> - the growing elderly population increases the pressure on institutions and professionals to provide social and medical care in the most cost effective way 	<ul style="list-style-type: none"> - global objectives are oriented toward improving coordination and efficiency but are not in line with those of the operational units - limited use of coordination mechanisms

	<ul style="list-style-type: none"> - social and health institutions remain separated by different rules and jurisdictions, distinct budgets - there are different institutional and professional cultures and different approaches in the provision of care - there is an insufficient provision of community care services, including long-term care and social services for the chronically ill and the elderly - major institutions that provide domiciliary support services are not working in an integrated way - The communication between professionals is considered as good but the use of communication technology is restricted 	<ul style="list-style-type: none"> - inappropriate evaluation of integrated care systems - distribute activities by levels of care make the integration process more difficult - in what concerns to professionals coordination proved to be inefficient
Interventions	<ul style="list-style-type: none"> - major efforts concerning communication between parties - building of a shared vision between scientists, politicians and practitioners - recognize interdependency and team working - mitigate professional and institutional boundaries - changing funding system - improve communication technology 	<ul style="list-style-type: none"> - to guarantee the continuity of care, coordination between providers should be improved - reward efficiency between care levels - collaboration between levels based on work processes standardization - change external elements as payment mechanisms - change internal elements as governing body role, organizational structure and coordination mechanisms - create coordination tools
Definitions	Integrated Care - a well-planned and well-organized set of services and care processes targeted at the multifaceted/ multidimensional needs/ problems of an individual client or group of persons with similar needs/problems.	Integrated Delivery Systems – a health services network that provide efficient and continuous care through assistance coordination

Article	<i>“Community-based integrated care: myth or must?”</i>	<i>“Developing integrated health and social care services for older persons in Europe”</i>
Authors	T. Plochg, N. S. Klazinga	Kai Leichsenring
Publication Year	2002	2004
Country/Region	Netherlands	Austria, Denmark, Finland, France, Germany, Greece, Italy, Netherlands, UK)
Method	Systematic Literary Review	Exploratory/Comparative Study
Study Setting	Health System Analysis	Health System Analysis
Study Objective	Analyse the quality of health care and elaborate on potential solutions to align the various efforts to improve the quality of care	Identify different European approaches to integration as well as structural, organisational, economic and social-cultural factors and actors that constitute integrated and sustainable care systems.
Key Points	<ul style="list-style-type: none"> - the primary process of patient care has evolved into a multidisciplinary task, encompassing the contribution of various professionals who often work in different organizations - cooperation and coordination among professionals and organizations have become essential requirements for delivering a high quality of care - a comprehensive multilevel change strategy to successfully implement instruments to improve the quality of care is lacking - community-based integrated care provides an outlook on the way the various rationalization strategies could be combined 	<ul style="list-style-type: none"> - The emerging challenges in ageing societies increasingly call for joint structures, training, and funding mechanisms - Integration within and between care services is specially important when it comes to service provision for elderly people - The concept of integrated care can be found in various countries and under various names (seamless care, transmural care, case management, care management and networking) - In most countries research remains distinct from practice, and development projects in the area of integrated care organisation depend heavily on single decision-makers and selective project funding - The European Centre for Social Welfare Policy and Research is looking at model ways of working that have shown to overcome

	<p>by taking ten reduction of fragmentation in health care delivery</p> <ul style="list-style-type: none"> - combine “integrated care” and “community care” may reinforce the traditional values of public health and help to keep “quality in health care” a unifying concept 	<p>existing barriers and to resolve everyday problems in the cooperation between health and social services: increase regulation (accreditation mechanisms, quality assurance) with respect to providers and, in particular, in relation to employment and human resource development to reduce “black market work” and to enhance clients control over the care process</p>
Challenges	<ul style="list-style-type: none"> - Health care systems have not been adjusted sufficiently to address the issue of fragmentation effectively - Lack of coherence among the various approaches employed and their underlying theories - Many quality programs are developed in isolation of others and have a limited scope - Rationales underlying these decision-making processes currently result in ambiguity of goals, conflicting interests of various decision makers, bureaucracy, poor information transfer, and limited use of the available knowledge - Incoherence between the three levels of decision making (micro– primary process of patient care; meso – organizational context; macro – financing and policy context) 	<ul style="list-style-type: none"> - Social service workers are often perceived at the bottom-line service delivery which is already one important feature to explain difficulties to develop integrated care systems - Different welfare regimes and old age policies - The different developmental states of national and regional long-term care systems - Bottle-neck at the various interfaces between the health care and the social care realms
Interventions	<p><u>Applying community-based integrated care:</u></p> <ul style="list-style-type: none"> - create an overall vision of public health on the level of a specific population embracing the needs, health goals, health beliefs and values systems of the community - practice guidelines need not only to be evidence based but also organization based (protocol development initiatives) - shift attention from numerous quality projects to health system redesign (major reallocation of responsibilities) - bureaucracy should be prevented and treated - health care professionals must have management skills to integrate the three aspects of decision making 	<ul style="list-style-type: none"> - <u>Case and care management:</u> aims at matching supply and demand for persons in complex situations, building up a network of services (UK, Germany, Netherlands, Northern countries, Italy, France, Austria) - <u>Intermediate Care strategies:</u> complement care with intensive rehabilitation services (situated in hospitals or people’s homes) to help older people regain their health and independence, recuperative facilities (short-term care in a nursing home or other special accommodation to ease the passage), and quick information exchange (transition forms and information technologies) (UK, Denmark) - <u>Needs assessment and joint planning:</u> from the moment a person is taken in charge by a service agency, his/her general needs should be assessed and matched with the exiting resources (Netherlands, UK) - <u>Personal budgets and/or long-term care allowances</u> (Germany, Austria, France, Denmark) - <u>Joint working:</u> once the various professionals start talking to each other, conflicts and different perspectives can be resolved (geriatric teams, mixed meetings before hospital discharge, joint training)

		(Denmark, France, Germany) - <u>Opening the institutions</u> towards an integration of housing, welfare and care: new types of support systems within the neighbourhood and the community (Denmark, Greece) - <u>Supporting informal care</u> : cash benefits (UK, Italy), pension grants to training and information (Germany), employment (Northern countries)
Definitions	Community-based integrated care – a concrete strategy to synergistically embed all quality-improvement efforts within health systems	Integrated Care – concept of providing care services in which the single units act in a coordinated way and which aims at ensuring cost-effectiveness, improving the quality and increasing the level of satisfaction of both users and providers of care

Article	<i>“Building integrated health systems in central and eastern Europe”</i>	<i>“Bridging the quality chasm: integrating professional and organizational approaches to quality”</i>
Authors	Diana M.J. Delnoij, Niek S. Klazinga, Koos Van Der Velden	Marc Berg, Wim Schellekens, Cé Bergen
Publication Year	2003	2005
Country/Region	Eastern European Countries	Netherlands
Method	Systematic Literary Review	Systematic Literary Review
Study Setting	Health Systems Analysis	Health Care Program analysis
Study Objective	Examine WHO and WB (world bank) views on health and health systems, and analysed to what extent the two approaches are i) compatible, and ii) lead to the building of needs-based health systems	Describe a series of interrelated design principles that together depict how future health care delivery could be organized
Key Points	<p><u>WB:</u></p> <ul style="list-style-type: none"> - health is an asset that provides people with income-earning potential - the reinforcing effects from human development to economic development suggest the existence of vicious and virtuous circles - improving health, as well as education, is directly related to promoting opportunities. Free primary education, subsidizing prevention of infectious diseases, and helping poor to finance the costs of illness are key elements in reducing vulnerability <p><u>WHO:</u></p> <ul style="list-style-type: none"> - a health system includes all the activities to promote, restore 	<ul style="list-style-type: none"> - There’s a chasm between what the overall quality delivered by the system should be and what it actually is - A careful and flexible integration of care programs is central to any viable health care delivery system of the future - Integration is powerless without a thorough restructuring and delegation of tasks, the application of integrated planning, the use of indicators about the functioning of care programs, and implementing process-supporting information technology

	<p>and maintain health. It encompasses all the organizations, institutions and resources that are devoted to produce health</p> <ul style="list-style-type: none"> - a health action is defined as any effort – whether in personal health care, public health services or intersectoral initiatives – whose primary purpose is to improve health - health systems carry out four vital functions: service provision, which is the core business of the system; resource generation; financing; and stewardship 	
Challenges	<ul style="list-style-type: none"> - Central and Eastern countries still have emerging epidemics of non-communicable diseases and persistent problems of infectious diseases - Those countries are still struggling with persisting poverty and unemployment, which lead to increasing inequities, deteriorating lifestyles, violence, and weakened social cohesion - In Western European countries chronic diseases and ageing population are gaining importance - West is exporting a health care system from the past, which will not optimally meet the needs of the future - Countries have a similar social background but health care systems had a different evolution - There is little evidence on how financing and payment systems can stimulate integrated care 	<ul style="list-style-type: none"> - Professionals are focused on different quality dimensions: health professionals focus mainly on effectiveness and safety; line managers on efficiency ... - The archetypical mode of organizing health care delivery is the step-by-step approach - Each professional group runs its own ship, having their own lines of accountability with the organization's top management - Registration habits are usually well suited for getting the actual work done, but not for using this information for secondary purposes such as improvement information or research
Interventions	<ul style="list-style-type: none"> - integrated approach of health in relation to economic development, education, participation... - in diminishing the socio-economic or ethnic differences in health status countries should combine health promotion, education and income policies - transition from relying heavily on hospital care to a primary care based health care system - creation of case managers to guide the chronically ill as they proceed through the health care and social service system - public-private partnerships actively supporting local community or national health programs - general financing models must be moulded into each country's historically developed health system 	<p>Integrating professional and organizational quality:</p> <ul style="list-style-type: none"> - join the state-of-the-art insights from different fields in one, integrated approach <p>Creating care programs:</p> <ul style="list-style-type: none"> - standardization of care into care programs is more effective and efficient: ensuring smooth coordination, continuity, and less variation between the individual steps of patient's program also affords safer and more patient-centred care <p>Restructuring and delegation of tasks:</p> <ul style="list-style-type: none"> - given shortages in qualified personnel, redistribution of tasks is essential to manage the increasing demand for care

	<ul style="list-style-type: none"> - Decision-makers should focus on future needs in order to avoid building health systems that lag behind the needs of their populations 	<ul style="list-style-type: none"> - it can ensure both the quality of the work delivered by the different care professionals involved, and the coordination of their work tasks <p>Integrating planning:</p> <ul style="list-style-type: none"> - integrating planning is patient friendly and effective (because of faster and better organized processing the likelihood of errors is reduced) <p>Professionals' quality system:</p> <ul style="list-style-type: none"> - the delivery process can be organized so that professionals can enter information in standard formats, with comparable and exportable data - constantly monitoring the impact of the care program on all dimensions of quality means continuous quality improvement <p>Information technology:</p> <ul style="list-style-type: none"> - redesigning and delegating tasks, integral planning, data-gathering and feedback, all ultimately depend on information technology - it can further improve cooperation, data management, and planning possibilities brought by the care program
Definitions	<p><u>Integrated care system</u> – system in which health promotion, disease prevention, diagnosis, treatment, rehabilitation and care are seen as one continuous link of actions to improve health gain</p>	<p><u>Integrated care program</u> – integration of activities between disciplines, professions, departments, and, in the case of a multi-organizational care path, organizations. It's about tackling professional and organizational quality simultaneously: optimizing effectiveness, efficiency, patient-centeredness and safety through integrating professional and organizational best practices.</p>

Article	<i>“Development of integrated care in England and the Netherlands. Managing across public-private boundaries”</i>	<i>“Integrated care programmes for chronically ill patients: a review of systematic reviews”</i>
Authors	Ingrid Mur-Veeman, Brian Hardy, Marijke Steenbergen, Gerard Wistow	Marielle Ouwens et al
Publication Year	2003	2005
Country/Region	UK, Netherlands	Netherlands
Method	Systematic Literary Review	Systematic Literary Review
Study Setting	Health System Analysis	Health System Analysis
Study Objective	Address the impact of the public-private mix in the Dutch and English health and social care systems on the development and delivery of integrated care.	To investigate effectiveness, definitions, and components of integrated care programs for chronically ill patients
Key Points	<ul style="list-style-type: none"> - integrated care as a process of coordination of the current fragmented services is necessary in order to improve efficiency and to better meet the changing demands of an increasing number of older people and chronic illness - integrated care requires cooperation of the provider’s activities in a coherent and comprehensive way~ - comparing the Dutch and English public-private relationships and their impact on the possibilities of integrated care development it seems clear that the English situation is 	<ul style="list-style-type: none"> - Despite considerable heterogeneity in interventions, patient populations, and processes and outcomes of care, integrated care programs seem to have positive effects on the quality of patient care - Integrate care programs are very similar, namely reducing fragmentation and improving continuity and coordination of care, but the focus and content of the programs are different widely - Most common components of integrated care programs are: self – management support; multidisciplinary patient care teams; multidisciplinary clinical pathways and professionals education

	<ul style="list-style-type: none"> formally more complex it is not possible to conclude that any one strategy is best: integrated care is highly dependent on the characteristics of the health and social care system, that policy approaches and policy successes are no transferable between systems 	<ul style="list-style-type: none"> To better compare programs and understand their effectiveness, consistent definitions must be used and component interventions must be well described
Challenges	<ul style="list-style-type: none"> the financial split between short-term and long-term-care in the Netherlands the split between the public, private and voluntary sectors in England contradictory interests, differences in professional and organizational cultures, power relations and mistrust between and within sectors difficulty for care providers too develop and deliver integrated care within the framework of existing national legislation and regulation the lack of leading power centre that is able to overcome political obstacles in the policy-making and implementation process (Netherlands) historically based structures, policies, legislation and regulations provide an inappropriate environment for integrated care 	<p><u>Challenges:</u></p> <ul style="list-style-type: none"> fast growing medical scientific knowledge (more diagnostic procedures and treatment modalities increasing life expectancies) ageing population: larger proportions of people that have illnesses with high impact and a chronic course patient care has changed from individual consultation to multiprofessional teamwork and this usually involves any health care providers health care improvement programs at hospitals usually focus on isolated interventions rather than on the total care process of the patient there is no unambiguous definition of integrated care and there is a lot of synonyms (disease management, care management, managed care, coordinated care)
Interventions	<ul style="list-style-type: none"> cooperation of the provider's care activities in a coherent and comprehensive way development of inter-institutional arrangements and new organisational instruments and methods change of attitudes, willingness to invest time and for service professionals to seek domain consensus and agreements over tasks and autonomy flexible regulations and structures in order to realise the coordination and integration of care providers and care activities beyond the boundaries of institutions, cultures and finance map the structure, culture and power relations of the systems and their constituent networks 	<p><u>Integrated Care Programs Benefits:</u></p> <ul style="list-style-type: none"> reduce fragmentation and improve the continuity and coordination of care by placing the patient in a central position in the process of health care delivery self-management support and patient education (collaboratively helping patients and their families acquire skills and knowledge to manage their own illness) clinical follow-up (monitoring patient on a regular base even after treatment) case management (allocation of coordination tasks to an appointed individual or a small team who takes responsibility for guiding the patient through the care process) multidisciplinary clinical pathway (structures multidisciplinary care plans which detail essential steps in the care process)

		- Feedback, reminders, and education for professionals (it gives health care professionals information regarding appropriate care for patients)
Definitions	<u>Integrated Care</u> – an organisational process of coordination which seeks to achieve seamless and continuous care, tailored to the patients’ needs and based on a holistic view of the patient	<u>Integrated Care</u> – an organisational process of coordination which seeks to achieve seamless and continuous care, tailored to the patients’ needs and based on a holistic view of the patient (Mur-Veeman) pp142

APPENDIX E

Interview Guide Questions

This appendix contains the interview guide questions, the date and time when the interview took place, and participants' personal data.

Participant Number ____

Date and Time: _____

Duration: _____

Region: _____

Age: _____

Time held in the position: _____

Position held: _____

1. Please tell me your perception on the focus of integrated care programs
 - 1.1 How would you define integrated care?
2. What factors in your country have led to the creation of an integrated care network?
3. What are the potential benefits of an integrated care network?
4. Please describe the barriers/ difficulties found when implementing integrated care?
5. What strategies would you suggest to overcome those difficulties?

APPENDIX F

Request for respondents to participate in research

Subject: Request for participation in a research study

My name is Ana Antunes.

I am a PhD Student at the Portuguese National School of Public Health, whose conducting a study on Integrated Care and Workforce Strategic Planning.

Recognizing your position and well known expertise in the field I believe that your contribution is of great value. Therefore I would like to ask for your availability to an individual interview on this issue.

The interview will take about 40 minutes and all the answers are confidential and solely for educational and scientific purposes.

If you are able to participate, please email me at vanessa.antunes@ensp.unl.pt or contact me by phone on 933238638.

Thank you very much for your contribution.

Best Regards,

APPENDIX G

INTERVIEW DATA

This appendix contains samples of all the participants' interviews. All the interviews were held in the participant's office. The purpose of the research was explained and the anonymity was guaranteed. All participants agreed to the recording of the interview.

PARTICIPANT 1 DATA

Date: 22.September.2011, 10:00

Duration: 40 minutes

Region: Norte

Age bracket: 50-60

Time held in the position: since 2008

Position held: team coordinator

1. Please tell me your perception on the focus of integrated care programs.

1.1 How would you define integrate care?

In Portugal we created an integrated care network because dependent people need a mix of health and social care services. For me it is also a group of services to support patients on various needs. Patients used do search for medical services mostly in the hospital setting. And health care centers (community care) were only searched for vaccines, prescriptions and little few things. Also nurses and doctors used to go to people home. But now the government created a medical services network to bridge primary and acute care.

2. What factors in your country have led to the creation of an integrated care network?

Ageing population and the rising of chronic conditions. Also old people usually live in rural areas and cannot access to quality care because of the insufficiency of community care services. It is very expensive for old patients to travel to big cities. They were discharged from hospital without having adequate community support; the communication was not good between those levels of care.

3. What are the potential benefits of an integrated care network?

The biggest benefit is the continuum of patients care. Yes, there is a continuum on patients care. In the past they were hospital discharged and there was a lack of community services support. Patient social needs were supported by family or friends but now they have specialized staff doing things properly and looking at them as a whole in a continuous manner.

But there are several other benefits. In the past patients were treated for one health problem without recognizing other needs or conditions. Professionals are now forced to go along with the guidelines not to miss any detail of patients' health. This is determinant for the success of treatments.

4. Please describe the barriers/ difficulties found when implementing integrated care?

To achieve integrated care we need to coordinate activities through protocols and directives. But national directives operation varies between regions. Professionals often disagree with some protocols, especially when referring patients or admitting patients in the net. Admission criteria are also often questioned. Hospital goal is to discharge patients as soon as possible, but sometimes it is difficult because there are no vacancies and they cannot be placed in the appropriate unit. Some units have long waiting lists (such as long term care units) and patients must be placed in another one what generates some constraints and a breaking in referral criteria. There also too much bureaucracy, too much forms to fill in what delays our work and communication. Communication between hospital and community teams is complicated. Sometimes information about patients is not transmitted between units and professional. There is information lacking.

Another problem is that intermediate care units don't understand the role of local and regional coordination teams. They still believe in self-management. But staff shortage is a major problem. We don't have enough professionals to cope with the needs of such a complex structure as the integrated care network. Teams are vulnerable and human resources are also not adequate to patients and community needs.

5. What strategies would you suggest to overcome those difficulties?

In our region we are already performing training sessions to local and regional coordination teams, as they don't understand the meaning and the scope of integrated care. All regions should be encouraged to provide ongoing training but we have no framework to work on that yet. I believe education is essential to support professionals working within integrated care services. Training in integrated care should also be given to undergraduate and post-graduate students, but that's only

provided for staff. Partnerships between higher education institutions and integrated care units should be encouraged. For example, students' internships should also comprise our units and not only hospitals or primary care settings.

Referral criteria must be carried out equally in all regions to avoid conflicts and miss understandings. Our health authorities should set equal national referral criteria and ensure their fulfillment.

Teams' composition should be planned according to the local community needs.

PARTICIPANT 2 DATA

Date: 20.October.2011, 09:00

Duration: 45 minutes

Region: Centro

Age bracket: 50-60

Time held in the position: since 2006

Position held: team coordinator

1. Please tell me your perception on the focus of integrated care programs. 1.1

How would you define integrate care? The goal of the integrated care network is to integrate health and social care to support dependent patients. It is a way of professionals to collaborate and provide seamless care. Integrated care means care which is organized around the needs of individual patients. Integrated care is not about structures or organizations or pathways, it is about better outcomes for service users. The focus is much more on preventing illness, supporting self-care, enhancing primary care, providing care in people's homes and the community, and increasing co-ordination between health care teams and social care.

2. What factors in your country have led to the creation of an integrated care network?

Our health system is facing the challenges of using resources more efficiently and of meeting the needs of an ageing population in which chronic medical conditions are increasing. Patients are living longer because of medical development but still with chronic diseases that need to be managed. The task is to implement a new model of care in which professionals work together more closely to meet the needs of patients and to co-ordinate services and enable people with complex needs to live healthy, fulfilling, independent lives.

3. What are the potential benefits of an integrated care network?

It is cheaper. Acute care requires more expensive resources. Intermediate units are more adjusted do patients' needs and are more affordable. The hospital daily rate is higher in acute care because of its structure and staff. Most of our patients suffer from multiple disorders that cannot only be addressed with acute care in a first stage, requiring continuous assistance. Most of them require specialized care and social

support suitable to their needs. I believe the accessibility to care is also getting better because units are closer to patients home.

4. Please describe the barriers/ difficulties found when implementing integrated care?

I believe most problems arise when admitting or referring patients. Our referral system will only function effectively if all service providers that are expected to adhere to the referral process refer appropriately and follow the agreed protocols of care. There are a lot of professionals involved who are more likely to make mistakes. Even when these criteria are fulfilled sometimes the referral process is incomplete because there are not adequate social answers. Also many patients don't have enough family support.

Another problem is communication, not inside the units, but between them. We must deal with so many forms that information on patient's health comes messy. There's a gap in continuity of care as information is missing. This problem is exacerbated by professional shortages and because professional turnover rate is very high. For politic and economic reasons most staff have a part-time contract arrangement which prevents their full dedication and specialization. Professionals are constantly adapting to changing environments which affect their performance. But professionals are not the only ones to be affected by economic constraints, financial resources shortage also affects care at local and regional level. Financial resources are short to pay home care teams displacement within the region.

5. What strategies would you suggest to overcome those difficulties?

On what concerns the referral process I would say that the number of professionals involved in it must be reduced in order to smooth the process and avoid mistakes. But I believe most problems I described could be alleviated if professionals where properly trained and prepared to deal with the constraints as they appear. For example, to avoid conflicting procedures our staff goes through period training in other units. But higher education institutions must also take an active part in this by giving more information on health systems integration, how the network is organized, why it was created, our goals...

Interviewer: You also mentioned staff performance...

Yes. Most professionals are not satisfied with their contract arrangements which prevents their full dedication and consequently affects their performance. In our region we tried to get full-time arrangements for all team leaders so they can be completely dedicated to the teams and patients. The same should happen with the remaining staff. Teams would be more consistent and quality of care would be improved.

PARTICIPANT 3 DATA

Date: 27.October.2011, 10:30

Duration: 37 minutes

Region: Lisboa e Vale do Tejo

Age bracket: 40-50

Time held in the position: since 2007

Position held: team coordinator

1. Please tell me your perception on the focus of integrated care programs. 1.1

How would you define integrate care?

The net was created in 2006 because in the past people with disabilities lived in large hospitals, were institutionalized. Other patients were cared by family because community support was scarce. Intermediate care specialized units were now brought up to provide continuous care after hospital discharge. Moving patients directly to community was not enough for their independent living

2. What factors in your country have led to the creation of an integrated care network?

The institutionalization of patients was a major concern exacerbated by the lack of community and social support. Patients never get fully covered of their needs. I believe other factor that led to the creation of the net is that keeping patients in acute care units indefinitely is very expensive. Hospitals can not discharge patients to the street without ensure the continuity of care.

3. What are the potential benefits of an integrated care network?

It prevents patients living in rural areas to move far away from their homes to obtain specialized care, because community-based care facilities were created and home care support teams undergone a major reorganization. Patients can get health and social care better adapted to their needs at a lowest cost to government.

4. Please describe the barriers/ difficulties found when implementing integrated care?

Referring patients to units and community teams is being a challenge. First because referral criteria are not complied, there is always an exception. That means the receiving unit are not properly forewarned of the patients real condition, being powerless to continue the management of the case. If done properly the receiving team should be able to use the information sent on the referral form to begin a new assessment and management of the case. Secondly, the inadequacy of family support also affects the continuity of care in the community setting. Family is essential in the care process and many patients don't have that kind of support. That's a challenge when referring to homecare teams.

Also one of the biggest challenges is the communication between providers, staff and patients. Some professionals don't use the same terminology and patients don't understand some medical terms. In some settings nurses use specific terminology to diagnose and to describe professional acts (International Classification for Nursing Practice) that is not understood by other professional groups. Even the online platform used is not compatible with other software and we cannot cross data and work in an integrated way.

5. What strategies would you suggest to overcome those difficulties?

Most problems are originated by communication issues easily surmountable by technology. Nevertheless, technology itself is locking the system and preventing information flow. Reconciling information systems will allow information to flow across the system, avoiding communication gaps and conflicts when referring patients.

Also some professionals don't have the capacity to cope with this kind of problems as they were not provided with the appropriate tools to do it. Teams should be provided with continuous training to be able to manage with this intersectoral and inter professional issues and improve their performance.

PARTICIPANT 4 DATA

Date: 10.November.2011, 10:00

Duration: 33 minutes

Region: Alentejo

Age bracket: 50-60

Time held in the position: since 2007

Position held: team coordinator

1. Please tell me your perception on the focus of integrated care programs. 1.1

How would you define integrate care?

The focus is on providing people greater independence through intermediate care. Our system had hospitals to provide acute care, primary care facilities and teams to provide community care. A third pillar was missing – intermediate care units – to provide continuous care.

2. What factors in your country have led to the creation of an integrated care network?

I believe one of the main problems was the fragmentation between hospitals and community services. Hospitals just wanted to discharge patients without worrying with the kind of support they would get. Communication between hospitals and health centers (community care) was also ineffective. It still is but now we have protocols and guidelines to manage information. Professional shortage was also a driver but we still have that problem, or it get worsened because now much more units and teams are needed to provide care.

3. What are the potential benefits of an integrated care network?

For patients the greatest benefit is the possibility of being near their homes and get support from their relatives. Most families live in residential areas far from their relatives. The possibility of choosing a closest unit potentially increases their involvement in the care process. But I believe the benefits of an integrated approach also extend to professionals, providers and to all health system. The coordination of care is fundamental for players provide continuous care.

4. Please describe the barriers/ difficulties found when implementing integrated care?

There are so many constraints, I don't even know where to start. First I believe the net is very bureaucratic and many people are involved in the referral process. It makes the process more time consuming and confuse for both patients and professionals. Bureaucracy distract staff from patient care. It diverts their time from patients to form filling and information gathering. Most times it is not necessary as providers and professionals often ask and use similar information. This could be avoided by the use of information technology, but the software that could allow it is not compatible. It is like a dead end.

Our team visits periodically inpatient units. We cannot hide the fact that during visits to units we found patients in alternate beds. Some of these are overloaded. And we are constantly receiving complaints from home care teams. Home care teams more specifically don't have the equipment they need to provide adequate care. In our area there are only two vehicles to transport teams along the entire region. Most professionals don't understand the financial problems we are getting through. Staff is not satisfied with their contract arrangements and consequently do not fully dedicate to the achievement of internal goals. It's a kind of task working, with no personal or team goals, because of instability. Quality is obviously affected. I actually fear for the network sustainability. Money is not enough to pay our own resources or to pay to providers; it does not cover or expenses. Health leaders don't seem to understand that to save costs in the future they must spend and invest in the present.

In fact the net represents a huge burden to the government because our payment system is tendentiously free and patients only have to pay a symbolic amount for their health expenses. The largest portion is always supported by the government. But even so some families cannot bear the costs. Even small amounts represent a huge burden on families' budget.

And there is also the professional's lack of knowledge on integrated care which aggravates the already existing constraints. Most staff working in intermediate care units came from the hospital setting. Professionals are not aware of the different type of care they must provide here. Integrated care is still an unknown concept for many professionals.

5. What strategies would you suggest to overcome those difficulties?

On what concerns bureaucracy not much can be done because technology systems are incompatible, as I already mentioned... Yet, we should redefine and reduce the numbers of actors involved in referral in order to avoid wasting time and misunderstood.

Interviewer: You also refer to professionals' satisfaction and knowledge, and mentioned the network sustainability... do you wish to suggest any strategies to cope with that?

Well, I believe that changing professionals' contract arrangements would improve their satisfaction and performance. They are the key for quality care. And in fact most staff shifting their work setting from hospitals to intermediate care units is not aware of the complexity the network represents. Education on integrated care services should be embedded in higher education institutions programs. Actually, we have already been receiving some students in our region during internships.

Interviewer: And on the sustainability issue...?

RD: Ministries should review how they share the budget. I believe the budget is off-balanced and expenses are not fairly shared.

PARTICIPANT 5 DATA

Date: 12.January.2012, 11:00

Duration: 35 minutes

Region: Algarve

Age bracket: 30-40

Time held in the position: since 2006

Position held: team coordinator

1. Please tell me your perception on the focus of integrated care programs. 1.1 How would you define integrate care?

The focus is the provision of more coordinated care. It is an interdisciplinary care that uses different professionals depending on patients needs.

2. What factors in your country have led to the creation of an integrated care network?

Portugal has an increasing ageing population with multiple needs that can only be addressed through continuous care. Also in our region people must travel far to get adequate medical support. We now have teams to provide care at people's homes.

3. What are the potential benefits of an integrated care network?

The proximity to patients home and the coordination and continuity of care

4. Please describe the barriers/ difficulties found when implementing integrated care?

The problems are pretty obvious and far too many in my opinion. First is the resistance to change. I felt some opposition and discredit related to the network implementation from colleagues. Second, there was an excessive pressure not only for the network rapidly to grow but also to increase its capacity. As a consequence some units are overflowing. Even home care teams are overloaded exciding the number of home visits they can handle. Third, we don't have enough professionals to provide adequate quality care, but still we are not using their skills effectively. I don't know how but we should reinvent our skills. And fourth, there's the shortage of

financial resources. Financial constraints prevent us from gathering the resources required to provide quality care. We must adapt the existent resources.

5. What strategies would you suggest to overcome those difficulties?

There's a range of possible strategies but there's also a panoply of cultural issues impeding change... I believe education is the pillar for the development and success of any policy. In our setting periodic training sessions are being undertaken emphasizing the referral process and the use of technology. We should also have been more selective and demanding on our staff profile in order to use their skills more effectively. We now need to redefine their skills due to staff shortages. Despite professional shortages on teams providing direct care, coordination teams are overflowing. Their structure and duties should also be rethought.

Interviewer: You also mentioned financial constraints...

In the current context I don't know very well what's the most suitable and enforceable solution. But I have to say that funds must be released so we can provide quality care. Funds must be reallocated according to local population needs. As our economy is threatened not much can be done...

APPENDIX H

